BUILDING CAPACITY FOR ENVIRONMENTAL PLANNING IN VIET NAM: The Role of Development Aid Environmental Impact Assessment Programmes

by

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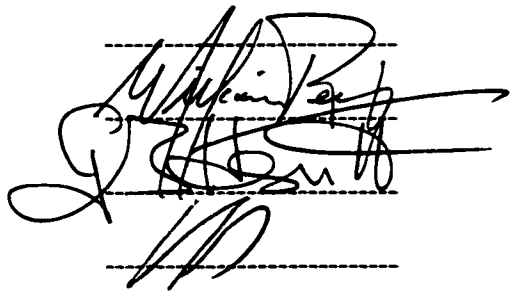

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ABSTRACT

This dissertation examines contentions in academic literature that a 'planning model of EIA' is a promising means by which to support sustainable development in developing countries. The planning model structures EIA as a participatory and value-laden planning process, linked to political planning and decision-making processes, embracing uncertainty, and incorporating multiple ways of knowing about environmental/social impacts. This contrasts with the 'technical model of EIA': a rational/technical product, using scientific techniques and skilled technicians to predict and quantify environmental and social impacts.

Research was carried out in Viet Nam, using a comparative case study approach. Development-aid EIA capacity-building programmes were used as case studies (n=9). Cross-case analysis was used to distill patterns, processes and outcomes common to the cases. The research employed a range of data gathering and analytical methods, including: collection of secondary sources, historical analysis, contents analysis, key informant interviewing (n=64) and direct observation.

In only five years of effort, development aid programmes have helped to transform the role of EIA in Viet Nam. From a training and awareness raising tool, EIA has become an officially mandated process beginning to influence the design of new projects and the wider Vietnamese development planning process. However, these programmes have a confusingly high degree of variation in EIA models promoted, ranging from a 'strong technical model' to a 'moderate planning model'.

The planning model of EIA was not a strong influence when Viet Nam first implemented its EIA process, nor has such a model been fully promoted by development aid capacity-building programmes. These programmes have had only limited success in promoting some elements of the planning model of EIA, including: EIA beyond project levels; longer-term EIA processes and impact monitoring, and; awareness of the need to broaden assessment beyond biophysical impacts. A number of areas of change are critical if aid agencies wish to promote a more complete planning model.

The dissertation concludes with a call for development aid agencies to reposition EIA capacity-building programmes as a deliberate attempt to transform aspects of the development planning contexts of developing countries, rather than to merely strengthen EIA and planning capacities within an unsustainable development planning process.

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GLOSSARY OF ACRONYMS

ADB	Asian Development Bank
AEAM	Adaptive Environmental Assessment and Management
CEA	Cumulative Effects Assessment
CEE	Cumulative Environmental Effects
CIDA	Canadian International Development Agency
CRES	Center for Natural Resources and Environmental Studies, University of Hanoi
DOSTE	Department of Science, Technology and Environment (Provincial)
EIA	Environmental Impact Assessment
EIA-CB	Environmental Impact Assessment Capacity-Building
EIA-CSP	Environmental Impact Assessment Capability Strengthening Project
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
EU	European Union
GONGO	Governmental Non-Governmental Organisation
GTZ	German Development Aid Agency
IDRC	International Development Research Centre
IEE	Initial Environmental Examination
IMF	International Monetary Fund
IUCN	International Union for the Conservation of Nature
JICA	Japan International Cooperation Agency
MARD	Ministry of Agriculture and Rural Development
MOSTE	Ministry of Science, Technology and Environment
MOT	Ministry of Transport
MPI	Ministry of Planning and Investment
NEA	National Environment Agency
NGO	Non-Governmental Organisation
NLEP	National Law on Environmental Protection
NPESD	National Plan for Environment and Sustainable Development
NRPE	National Research Programme on Environment
PIAP	Policy Implementation Assistance Project
REA	Regional Environmental Assessment
SCST	State Committee for Sciences and Technology
SEA	Strategic Environmental Assessment
SSHRC	Social Sciences and Humanities Research Council
SIA	Social Impact Assessment
SIDA	Swedish International Development Agency
SPREP	South Pacific Regional Environment Programme
SRV	Socialist Republic of Viet Nam
TEK	Traditional Ecological Knowledge
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organisation
USAID	United States Agency for International Development

US-NEPA	United States National Environmental Protection Act
VCEP	Vietnam Canada Environmental Project
VISED	Viet Nam Canada Sustainable Economic Development Project
WHO	World Health Organization
WRI	World Resources Institute

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I would like to thank each of the key informants involved in my study for the helpful insights, opinions and information provided to me. In particular, I appreciate the willingness shown by the staff of many development aid agencies to explain and involve me in environmental impact assessment capacity-building activities: the workshops, training sessions and site visits that comprise the lengthy challenge of building Vietnam's environmental planning capacity.

Lastly, I would like to thank my parents for their continuing support and encouragement throughout my studies and research travels.

DEDICATION

This dissertation is dedicated to my wife, Dr. Judith Cukier.

You provided me with support, love and intellectual challenges throughout my studies and research, and by example, encouraged me to follow my academic dreams. Your level of excellence and tenacious persistence in all that you do inspires me, and provides a blueprint from which I draw whenever I need. It is your persistence, in particular, which has changed our life so much for the better this year with the arrival of our daughter, Renna Gabrielle Cukier. After five years of disappointment it is testament to your persistence that she is now in our lives. Her smiling and ever-alert face reminds me anew of the joy of learning and wonders of life, and through her many needs and unscheduled demands, I learn how much more I need to learn in order to be a good 'planner'!

Thank you Judie, for all that you did in helping me through my studies and research.

Chapter One

CHAPTER ONE: INTRODUCTION AND RESEARCH FRAMEWORK

Developing countries around the world have responded to international calls for sustainable development, in part, by turning to environmental planning procedures first pioneered in industrialised countries. Following the example of the majority of industrialised countries, many developing countries have begun to adopt planning procedures known as "environmental impact assessment" (EIA) in efforts to reduce the negative environmental and social impacts of development. The reasons for this movement are complex, involving such factors as: pressure from environmental groups; conditions attached to and programmes provided by development aid agencies; increased environmental awareness in developing countries; improved standards of practice by private investors, and; the desire by developing country planners to emulate the planning innovations of developed countries. Of these factors however, the most important impetus for the adoption of EIA in developing countries has undoubtedly been the influence of development aid[1] agencies, influence which often persists for many years through EIA capacity-building programmes.

[1]There are two main ways in which the presence of development aid can stimulate the establishment of EIA within a developing country:

1) Development Aid Programming: Non-repayable development aid programmes or grants for the establishment and strengthening of EIA within a country - provided mainly by multilateral (grants only), bilateral, or NGO development aid programmes.

Environmental impact assessment is seen in the literature as a generally positive addition to the development planning frameworks of developing countries: it is an "effective tool" (Ahmad and Sammy 1985, vi) which ensures that the negative environmental and social impacts of development can be predicted, evaluated and mitigated, and thus, "kept to a minimum" (Biswas and Geping 1987, x). Although there are examples of EIA practice in which the gulf between the proposed development and expressed local needs is so wide that the act of conducting an EIA may be "a ritualistic sham" (Jiggins 1995, 57), most authors view EIA as providing an important step forward toward planning processes which routinely incorporate a sustainable development perspective. As Berger (1994, 64) has suggested: "Experience world-wide, in developed as well as developing countries, has shown that by factoring in and allowing for human and environmental considerations at the outset, projects can be improved substantially". Regardless of the project-specific outcomes of EIA activities, the institutionalisation of EIA within development planning processes can also confer important environmental awareness-raising benefits that transcend individual projects and contribute broadly to the achievement of sustainable development ideals. Such heightened awareness extends to a diverse group of development proponents, government bureaucrats, and local community members and political decision-makers, each of whom are sensitised to the need to expand the range of concern from the purely technical or economic, to ecological and social concerns. Perhaps most importantly, EIA is a pragmatic, workable means of counteracting the lack of environmental perspective found in the development planning processes of many developing countries (Lim 1985).

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2) Loans With Conditions or Covenants: Repayable development aid loans for major projects or programmes, provided mainly by multilateral development banks, usually stipulate that an EIA must be conducted as part of the loan or

However, what is most important is not whether EIA is present in a particular country, but rather, whether it is structured and positioned well enough within the overall development planning framework to reduce the negative impacts of development. Often EIA is formally required under a developing country's legislation yet is marginalised, of poor quality, elitist or technocratic, initiated too late, is manipulated by vested interests, or is largely ignored in the development planning decision-making structure. This is particularly troublesome since EIA can often be the prime, and sometimes only, avenue through which development proposals are reviewed for adverse environmental or social impacts (Doberstein 1998).

Notwithstanding the general agreement about the benefits of EIA for developing countries, the most appropriate and effective procedural model for EIA remains a hotly debated and critical research issue. Much of the literature supporting the transfer of EIA to developing countries is based on perceptions that EIA has been successful in achieving its goals[2] in a developed country context, and that these successes can be replicated in differing political and developmental contexts. EIA represents a transfer of 'planning culture', which at times and in some contexts, may not be appropriate. Furthermore, much of this literature does not acknowledge the potential for different forms or 'models' of EIA to be introduced into developing countries.

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programme approval process.

[2] Generally, the goals of EIA are to:

a) reduce the negative environmental and social impacts that a particular development project, plan or policy causes, and;

b) increase the amount of public participation, input and control in development decision-making.

1.1 Conceptual framework: EIA models

I distilled two opposing models of EIA from the literature reviewed in Chapter Two. I refer to these throughout as the "technical model of EIA" (after Boothroyd and Rees 1984, 1) and what I call the "planning model of EIA" (after Boothroyd and Rees 1984, and Spaling and Smit 1993). Table 1.1 summarises the main differences between the technical and planning models of EIA, organised around seven themes commonly found in EIA literature:

Table 1.1: Differing Assumptions and Structures: Technical vs. Planning Model of EIA

	TECHNICAL MODEL	PLANNING MODEL
1. INTENDED ROLE FOR EIA IN DEVELOPMENT PLANNING:	Rational/technical product and input to technocratic planning.	Consultative and participatory political/planning process
2. SCALE OF ASSESSMENT ACTIVITIES:	Microscale: (projects).	Macroscale<-->Microscale (policies, regional and cumulative assessments, projects).
3. EPISTEMOLOGICAL BASIS OF EIA:	Scientifically derived objective 'knowledge' and quantitative data	Multiple perspective (i.e., indigenous knowledge, values, and opinions co-exist with scientifically-derived knowledge)
4. KNOWLEDGE CERTAINTY IN EIA:	Predictive capacity allows the rational selection of the 'best' development project.	Accurate prediction of complex system behaviour is impossible, therefore, uncertainty, precaution and adaptation should be a central organising feature of EIA.
5. TIMING AND LENGTH OF EIA ACTIVITIES:	Discrete, "one-shot" part of the overall project cycle.	Continuing planning process emphasising experimentation, adaptation, monitoring, learning and redesign
6. PUBLIC INVOLVEMENT IN EIA:	Persuasion, education and consultation as a short-term component near the end of EIA studies.	Shared decision-making, public involvement in EIA studies, delegated authority or self-determination beginning at the earliest possible stage and continuing throughout the life of the EIA process.
7. PLANNING THEORY BASIS	Rational Comprehensive Planning	Mixed scanning, transactive planning and advocacy planning

These seven themes comprise a conceptual framework which usefully describes and defines two opposing models of EIA. This framework was used throughout the research to

characterise EIA systems, and the contributions of EIA capacity-building programmes in changing or strengthening EIA systems. Each of the seven themes may be placed on a continuum in which the technical and planning models represent the extremes or continuum endpoints, and in most cases, neither extreme would be expected to occur in its entirety. Thus, most EIA processes would tend to exhibit a mixture of technical model and planning model attributes, with each of the seven themes falling somewhere along a continuum between a full 'technical' or 'planning' model.

1.2 Problem Statement

There are growing indications in the environmental impact assessment literature that, particularly at a conceptual/theoretical level, a planning model of EIA shows promise for supporting the sustainable development goals of developing countries[3]. However, to date there has been little empirical evidence to suggest that this message has been influential when developing countries first attempt to design or implement EIA processes. Following the example set by developed countries, most developing countries have adopted a form of EIA which most closely matches a technical, rather than planning, model of EIA. Furthermore, although development aid[4] programmes carrying out EIA capacity building may transform developing countries' EIA processes over time toward the planning model, there has been surprisingly little empirical research on the approaches promoted by such programmes. Moreover, it is unclear whether capacity-building programmes conducted by development

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[3] In ecological terms, it is understood that patterns of consumption in most developing countries are already more sustainable than developed (highly consumptive) countries. However, many developing countries, including Viet Nam, establish 'sustainable development goals' to provide focus for waste reduction, resource use efficiency and population growth reduction programmes.

[4] The literature uses the following terms more or less synonymously: "foreign aid"; "aid"; "development assistance", and; "development aid". The term "development aid" was used throughout most of the dissertation except where direct quotations use other terms.

aid agencies have contributed to greater acceptance of the planning model over time. I have found no empirical studies showing that a planning model of EIA guides either indigenous efforts by developing country governments to design and implement EIA, or the EIA capacity-building programmes of development aid agencies. Although the literature suggests that the planning model has not been influential in developing countries, there have been no empirical studies exploring the EIA capacity-building efforts of 'outsiders', who presumably have a wider scope of knowledge of the history, strengths and weaknesses of various EIA models than do domestic agencies in developing countries.

1.3 Theoretical Questions

Two linked questions guided the research:

1. Why has the planning model of EIA not provided guidance for developing countries during the period when environmental impact assessment is first adopted?

2. In what manner, and to what extent, do EIA capacity-building programmes conducted by development aid agencies contribute toward greater or lesser acceptance of the planning model of EIA in developing countries?

1.4 Study Purpose

The overall purpose of my study is to contribute to academic and practical knowledge of environmental planning in developing countries. In particular, I explore the role of development aid programming in building capacity for environmental planning, with a view toward formulating practical policy guidelines for EIA capacity-building in developing countries. The study originates in the criticism, analysis and suggested reforms that have emerged from twenty-five years of international EIA theory and practice.

More specifically, the purpose of the study is to:

- contribute to understanding of the model of EIA being promoted by development aid agencies, and the historical, institutional and cultural factors affecting this choice;

- to determine, both empirically and logically, the implications of EIA model choice by development aid agencies on the development planning processes of developing countries, and;

- to identify ways in which development aid efforts pertaining to EIA can assist developing countries to achieve goals of sustainability, good governance and equity.

1.5 Research Method - Case Study

1.5.1 Case Study Research

Case study research has been typified in research methods literature as striving towards a relatively holistic understanding of cultural "systems of action" ranging from small cliques and groups to entire communities or societies. What constitutes a study "case" is the system of action under investigation (Feagin et. al. 1991, 152). In the research carried out for this dissertation, a total of nine EIA capacity-building programmes served as the systems of action or 'cases' investigated. Case study research has been described as a useful strategy in exploratory attempts to describe and explain complex social phenomena (Yin 1989, Hamel et. al. 1993), and when the focus is on a "contemporary phenomenon within some real-life context" (Yin 1989, 13). Case study research can range from studies of single cases to studies and comparison of multiple cases. Research focusing on single case studies is typically multi-faceted and detailed (Feagin et. al. 1991), although subject to limitations of generalisability beyond the case under investigation. By contrast, comparative case study research seeks patterns that cut across cases, and trades-off depth and detail for greater generalisability and explanatory insight (Miles and Huberman 1994). This study adopts this latter, comparative, inductive approach. Research validity and generalisability are bolstered through the use of

standard social science triangulation techniques, and careful description of the cases and settings within which the research is conducted (Fielding and Fielding 1986, Marshall and Rossman 1989, Feagin et. al. 1991).

1.5.2 Research Framework: Country-Specific Comparative Case Studies

I use a country-specific, comparative case study approach to examine the model of EIA emerging in one developing country, and to trace the influence of development aid agencies on this model. Following an extensive literature review and a series of informal discussions with development aid officials, I selected Viet Nam:

1. The country is in the formative stage of adopting EIA, making it easier to trace the decision-making processes and reasoning behind the initial choice of EIA procedures;
2. The country is involved in attempts to strengthen existing EIA procedures, so there is ample opinion and discussion of both deficiencies in the initial model, and on desirable changes;
3. The country has significant governmental policy commitments to the incorporation of environmental considerations in development planning, thus, EIA has a considerable level of official support.

Preliminary field research in December 1994 confirmed the suitability of this choice.

1.5.3 Viet Nam as a Country Case Study

Due to its tumultuous recent development history, Viet Nam has only recently been able to direct serious attention to the environmental and social impacts of development. Unlike many other counterpart nations in Southeast Asia, Viet Nam added environmental impact assessment to its formal planning structure only recently. Although hopes are high

among government and development aid agencies that EIA will play a significant role in movement toward sustainable development, current capacity to implement EIA is limited.

As compared to other countries around the world, Viet Nam may be typified as a country featuring many serious environmental and resource degradation problems linked to poverty, and an extremely high (and increasing) population density, but very low levels of per capita resource consumption and waste output. In 1993, approximately 50% of Vietnamese households did not meet 'basic needs' criteria (a World Bank family income measure designed to assess whether families could afford basic levels of food, healthcare, education, transportation and other basic needs costs (Hainsworth 1999)). Thus, many Vietnamese households are forced to seek additional 'free' supports through collectively damaging activities such as fuelwood collection, fishing and hunting, or cultivation of park or marginal lands. Unlike industrialised countries where a transition to ecological sustainability hinges on the need to *reduce* current levels of economic activity (with associated unsustainable rates of resource consumption, throughput and waste output), Viet Nam's long-term ecological sustainability depends on the need to increase current levels of development activity to a point where poverty-linked environmental degradation is greatly reduced. Such an increase however, requires that close attention is paid to a myriad of sustainability concerns: that resources are used efficiently in the development process, that development efforts concentrate on those individuals in greatest need, that development levels do not overshoot the country's natural capital base, and that developments designed to alleviate environmental and resource use pressures do not inadvertently cause additional

pressures. Practices such as environmental impact assessment have a potentially crucial role to play in structuring and guiding Viet Nam's future development.

Viet Nam is currently in its final year of a ten-year sustainable development strategy entitled the *National Plan for Environment and Sustainable Development 1991-2000.* Within this plan, the development and implementation of Environmental Impact Assessment (EIA) was seen by the Vietnamese Government as one of its "highest priorities" (SRV/UNDP 1991, 20) in the reform of the government's legislative, policy and planning framework. Following the 1992 creation of the Vietnamese National Environment Agency (NEA, a central environmental authority to administer and implement EIA), Viet Nam formally ratified its Environmental Law which specified the need for EIA in project planning. Provisional EIA guidelines were adopted in the country shortly thereafter. These guidelines consisted of a limited, site- and project-specific technical approach to EIA which was required of virtually all regional development plans and development projects. Subsequent history has shown however, that many development plans and projects in Viet Nam have proceeded without any environmental assessment whatsoever (Informant #59 1998).

This problem of limited EIA implementation has largely been attributed to a lack of the requisite knowledge, skills and resources, and thus, EIA capacity-building is seen by government and development aid agencies as crucial to Viet Nam's ability to move toward sustainable development. In response, numerous EIA capacity-building projects have been designed, conceptualised and/or funded by bilateral, multilateral or non-governmental development aid organisations working in Viet Nam. Although domestic (initiated and

carried out by Vietnamese agencies or individuals) capacity-building programmes have also taken place, these programmes were of greatest importance in the 1980s (see Table 3.1), prior to the resumption of international aid to Viet Nam. Such programmes were poorly documented, and were often comprised of an informal 'interest group' carrying out capacity-building activities when time and resources permitted (Informant #30 1995). Since these programmes had largely ceased by the time research was initiated, they were excluded from the study. Thus, research on the EIA model emerging in Viet Nam must necessarily include a consideration of the role that foreign development aid programmes play. Development aid programmes which attempt to build EIA capacity were therefore selected as specific case studies for the research.

1.5.4 Case Study Selection: EIA Capacity-Building Programmes in Viet Nam

I conducted 10 months of field research in three separate trips to Viet Nam: a two-month preliminary trip to Hanoi from December 1994 to January 1995, and two subsequent intensive research trips from October 1997 to March 1998 (Hanoi), and from June 1998 to August 1998 (Hanoi and Ho Chi Minh City).

I analysed nine EIA capacity-building programmes in Viet Nam. Cross-case analyses were conducted in order to distill patterns, processes and outcomes common to the cases studied. This cross-case analysis was useful in revealing the extent to which similar models of EIA were promoted by development aid agencies and in determining whether the planning model of EIA was applied through the capacity-building actions of development aid agencies.

The capacity-building programmes examined ranged from central government-level programmes carried out largely by foreign consultants, to initiatives funded by aid agencies but carried out almost entirely by Vietnamese nationals through Vietnamese academic institutes. Some of the cases were assessed from an historical perspective (i.e. for those programmes already finished by the time research began) and others from a contemporary or 'in process' perspective (i.e. for those programmes still in operation during the research). The latter allowed a wider range of inquiry, including direct interviews with actively engaged development aid personnel and their Vietnamese counterparts. Comparison with previously completed programmes provided an understanding of how aid programming has changed over the short history of EIA in Viet Nam.

The programmes studied, listed chronologically by year of initiation, are:

- 1994-Canada's International Development Research Centre (IDRC) "*Viet Nam/Canada Sustainable Economic Development (VISED)*" project.
- 1995-Asian Development Bank "*Viet Nam: strengthening environmental planning and EIA capabilities*" project.
- 1995-United Nations Development Programme, "*Capacity 21-Phase I, Strengthening national capacities to integrate the environment into investment decisions*".
- 1996-Canadian International Development Agency's (CIDA) "*Vietnam-Canada environmental programme (VCEP)*".
- 1996- Canadian International Development Agency's (CIDA) "*Policy Implementation Assistance Project (PIAP)*".
- 1997-European Union project on "*Capacity Building for Environmental Management in Vietnam*".

- 1997-United Nations Environment Programme (UNEP)/International Union for Conservation of Nature (IUCN) "*Regional workshop on capacity building in EIA and the trialling of the UNEP EIA resource manual*".
- 1998-Netherlands Embassy "*EIA Capability Strengthening Programme*"
- 1998-United Nations Development Programme (UNDP) "*Capacity 21-Phase II*"

This diversity of EIA capacity-building represented a wide range of implementing agencies and implementation styles (i.e., two programmes were staffed by UN employees, four programmes were staffed by hired consultants, two programmes were staffed by academic consultants, and one programme was staffed by members of an international NGO and independent academic consultants).

1.5.5 Study Questions and Objectives

1.5.5.1 Study Questions

The two questions identified in section 1.3 guided Viet Nam case study research:

1. Why has the planning model of EIA not provided guidance for developing countries during the period when environmental impact assessment is first adopted?

2. In what manner, and to what extent, do EIA capacity-building programmes conducted by development aid agencies contribute toward greater or lesser acceptance of the planning model of EIA in developing countries?

1.5.5.2 Study Objectives

Four Viet Nam-specific research objectives were derived from the research questions:

Objective One:
To describe and explain the way in which the Vietnamese development planning context affected the initial choice of EIA model, and to identify factors contributing to a preference for a technical approach and inhibiting adoption of a planning approach.

Objective Two:
To document and describe the conceptual model(s) underlying EIA capacity-building programmes operating in Viet Nam.

Objective Three:
To determine the aims of, rationale for, response to and outcomes of EIA capacity-building programmes carried out by development aid agencies in Viet Nam.

Objective Four:
To develop specific policy guidelines on capacity-building programming which can lead to greater acceptance of the planning model of EIA in Viet Nam and other similar development contexts.

1.5.6 Data Collection and Analysis

I used several data collection and analytical methods, including: collection and analysis of secondary sources, key informant interviews, direct observation, historical analysis, and content analysis. This section reviews each of these methods in turn.

1.5.6.1 Secondary Sources

A range of secondary data sources related to EIA capacity-building in Viet Nam was obtained while in-country. In Viet Nam, many of these data are housed in the libraries and private collections of multilateral and bilateral development aid agencies, in international and Vietnamese consulting offices, in Vietnamese government offices and academic institutes, and in international NGO offices. Typically, potential repositories of secondary data were identified during informal interviews with aid agency, NGO or Vietnamese government officials. Secondary data sources included: books; journal, newspaper and magazine articles; Internet-based materials, and most importantly; "grey literature" (the unpublished reports issued by foreign and Vietnamese government agencies, development aid agencies, research institutes and consulting firms). Secondary data sources were selected on the basis of the

extent to which they dealt with environmental planning, EIA and capacity-building in Viet Nam.

1.5.6.2 Unstandardised Key Informant Interviewing

Babbie (1989, 270) describes unstandardised interviewing as "interaction between an interviewer and respondent in which the interviewer has a general plan of inquiry but not a specific set of questions that must be asked in particular words and in a particular order". In the unstandardised interview, interviewers "develop, adapt, and generate questions and follow-up probes appropriate to the given situation and the central purpose of the investigation" (Berg 1995, 32). The main benefit of unstandardised interviewing is its usefulness in exploratory research where it is assumed that the interviewer does not know beforehand all the pertinent questions and thus, cannot predetermine fully a list of questions to ask (Berg 1995, 32): it is a flexible interview approach which can react and build upon unexpected but valuable information emerging during field research.

I used unstandardised key informant interviews as my main source of data about EIA models and the role development aid agencies have played in the emergence and reform of EIA in Viet Nam. I first began identifying potential key informants during my first field research season, December 1994 to January 1995, during which initial interviews were conducted with thirty individuals in the Hanoi development aid, academic and NGO community (see Appendix 2). I spoke to approximately ten of these individuals again during subsequent field seasons, mainly in order to solicit names of potential key informants. Additional key informants were identified using a "snowball sample" method: key

informants are asked to name additional useful key informants until such time as no new recommendations are forthcoming (Babbie 1989, 268). In addition, I asked my host institute in Viet Nam, The National Centre for Social Sciences and Humanities (NCSSH), to contribute names of possible interviewees. My eventual key informant sample size was n=64 (see Appendix 2), although I spoke to an additional 25 individuals and decided they were unsuitable due to their lack of knowledge about EIA capacity-building. I interviewed key informants both internal and external to my EIA capacity-building case studies, predominantly from one of the following categories:

- Expatriate development aid agency officials;
- Vietnamese government officials;
- Vietnamese academics (particularly those with interests in environmental and sustainable development planning);
- Expatriate international non-governmental organisation staff (particularly those with interests in the environment and impact assessment), and;
- Expatriate international consulting firm staff involved in environmental protection activities in Viet Nam.

Most key informants were located in Hanoi (n=49), reflecting its importance as the centre of government, a site of numerous academic institutions involved in EIA, and the centre for development aid activity in Viet Nam. I conducted other key informant interviews with individuals based in Ho Chi Minh City (n=4) or countries other than Viet Nam (n=11). Of the 64 interviewees, approximately one third were Vietnamese nationals (n=23) while the remainder were expatriates with working experience and knowledge of Viet Nam ranging from 'minimal' to 'extensive'. All unstandardised interviews were recorded and transcribed, or transcribed directly.

To counterbalance skepticism about the replicability and validity of unstandardised interviewing, I generated a set of question "themes" corresponding to Research Objectives 1-4 (see Appendix 1). These served as a general list from which questions were drawn during each interview. These themes were adjusted throughout the course of the research as new themes emerged from the commentary provided by key informants. Such an approach reflects my understanding of the benefits of combining an *etic* analysis (an imposed frame of reference) with an *emic* analysis (working within the frame of reference of those being studied) (Fielding and Fielding 1986).

1.5.6.3 Direct Observation (Participant Observation)

Direct observation is a useful component of research which, in addition to being a source of data, can assist in the theory-building activities that are the hallmarks of good field research (Babbie 1989). I used direct observation in a number of ways:

- To observe development projects important to understanding the history of EIA in Viet Nam (e.g. Hoa Binh dam);
- To observe development projects subjected to, and subsequently approved, under Viet Nam's environmental impact assessment requirements (e.g. Hanel electronics manufacturing plant, Tan Thuan export processing zone and Ho Chi Minh Port);
- To observe development projects excluded from the EIA process by EIA regulations (e.g. the small-scale but collectively numerous and extensive tourism developments ringing Ha Long bay);
- To participate in and observe EIA capacity-building activities carried out by development aid agencies (e.g. workshops, training sessions and field training activities).

The overall purpose of including direct observation as a data collection method was to gain a personal awareness and understanding of the types of development(s) included and excluded

in the Vietnamese EIA process. I recorded my observations through field notes, photos, and sketch maps. The direct observation of development projects and capacity-building activities proved to be a fertile source of additional key informant interview questions and conversation themes.

1.5.6.4 Historical Analysis;

Any attempt to conduct research on current policy instruments such as EIA requires at least a "modest review of immediately preceding events" since "current policies can only be fully understood by examining their evolution" (Pal 1987, 29). In this study, I used historical analysis to trace the special context in which EIA emerged in Viet Nam and the contribution this has made to the design of EIA procedures. The historical overview also revealed the early need for EIA capacity-building in Viet Nam, and helped explain the role of EIA capacity-building programmes in influencing the EIA model that is evolving in the country.

Historical analysis is defined as "a study of the relationships among issues that have influenced the past, continue to influence the present, and will certainly affect the future" (Berg 1995, 162). Its major contribution lies in its ability to establish a research baseline or background of historical facts upon which current research can be built (Babbie 1989, Marshall and Rossman 1989). Historical analysis of multiple cases helps to verify observations: if several historical sources point to the same conclusions, confidence in the research is increased (Babbie 1989). In the interest of placing bounds on the research, I concentrated my analysis on the period following 1986 when the *Doi Moi* or "renovation"

strategy of national development was first introduced in Viet Nam. The history of this period revealed the actors (individuals, agencies, institutions), significant events, and key developments that have affected the model of EIA currently in use in Viet Nam

I used both primary and secondary data in the historical analysis. Primary data were generated from key informant interviews, while secondary data were derived from the sources mentioned previously. There has been an explosion of development aid programmes in Viet Nam, so there is presently a wealth of English-language documentation summarising the past and present state of the Vietnamese environment, social conditions, and development planning institutions. These documents were key sources for my historical analysis.

1.5.6.5 Content Analysis

Content analysis can be defined as the systematic empirical description of the intentions, problem definition, goals and instruments contained within artifacts of social communication (after Pal 1987, Berg 1995). One may apply content analysis to virtually any form of communication (Babbie 1989) but the analysis should be based upon an explicit sampling frame or "analytical criteria" developed beforehand. The most common output from content analysis is descriptive statistical data (i.e. the relative proportions and frequencies of various themes found within the communication) which are useful in corroborating or challenging other research results. Although content analysis is usually considered a quantitative research method, it may range from narrowly-defined quantification (i.e. counting the frequency with which specific words or phrases appear) to a more broadly-conceived approach combining quantitative and qualitative methods (i.e. determining the

presence or absence of themes, topics, or symbols related to analytical criteria). I used content analysis of the latter form throughout the study.

In order to reflect "best practice" (Babbie 1989, Berg 1995), I analysed both 'manifest' content (words or themes which are obviously present) and 'latent' content (themes and topics which are found to be present through an interpretative reading of the material). The analytical criteria used are presented in Chapter Four (see Tables 4.1 and 4.2). I derived these criteria from the seven themes identified in Table 1.1. After an initial pilot-test on one project document, I modified the criteria used in the final analytical framework.

I applied content analysis to a total of 16 development aid agency programme documents (including design documents, activity reports, workshop reports, and post-project assessments) produced by the 9 EIA capacity-building programmes. In each of 16 documents, I identified and analysed commentary pertaining to the model of EIA being promoted by EIA capacity-building projects. All commentary which did not pertain to EIA models was ignored. Documents ranged in length from 8 pages to over 700 pages[5]. Each sentence of EIA-related commentary was considered to be a single 'recording unit' for content analysis purposes. For example, one sentence from the VCEP project inception document indicated the project would assist in strengthening "tracking the EIA reports for new projects..." (ESSA/SNC Lavalin 1996a, 2-45) and was marked down in the content analysis sheets as an example of promotion of EIA at a project level (rather than at

[5] After commentary which did not pertain to EIA models was excluded the 700+ page document was reduced to 131 pages of analysed text.

programme or policy levels). Difficulties encountered in the use of content analysis for this study included:

- documents analysed were of differing length, specificity and purpose (thus, there was no standardised unit of analysis);
- the necessary subjectivity of content analysis designed to tap 'latent' content reduces potential replicability;
- capacity-building programmes often changed between design and implementation stages (affecting the actual content of the programme and the model of EIA promoted);

1.6 Study Scope and Applications

This research was conducted entirely in one country, Viet Nam. I examine the historical antecedents to EIA in the country, the initial implementation of EIA, and the more recent addition of EIA capacity-building programmes conducted by development aid agencies. Because the research is situated in the particular cultural, temporal and political context of Viet Nam, some of the conclusions drawn from the research may have limited relevance outside the country. However, since development aid agencies typically apply a fairly standard programme format across a number of developing countries, I am able to draw a number of conclusions and policy guidelines that transcend the Viet Nam context, and may be generalisable to other developing countries.

This analysis draws extensively on only one developing country's experience with environmental impact assessment. My findings may therefore have limited applicability and generalisability beyond Viet Nam's borders to other developing countries with similar developmental contexts. However, the implications and conclusions drawn from the research are most directly applicable to Viet Nam alone. The research was also limited by the time

and resources available to the researcher: when these limitations combine with observations of the proliferation and complexity of EIA capacity-building programmes in Viet Nam, omissions and misinterpretations are inevitable. The research was carried out over a five-year period of particular dynamism in the country's EIA implementation, 1994-1998, and research results are therefore unlikely to be replicable five or ten years from now. Lastly, the sources of data used in the research (secondary sources, interviews, participant observation) were limited to those available in English. Valuable Vietnamese-language commentary was undoubtedly left out of consideration. However, the researcher was constantly impressed by the English language capabilities demonstrated by Vietnamese key informants or their translators[6], and thus, language limitations were not judged to be of major concern.

1.7 Links Between Research Objectives and Research Methods

1. The first research objective ("To describe and explain the way in which the Vietnamese development planning context affected the initial choice of EIA model ") was achieved primarily through the historical analysis of secondary data, although additional insight was also gained through the use of unstandardised interviews.

2. The second research objective ("To document and describe the conceptual model(s) underlying EIA capacity-building programmes operating in Viet Nam ") was achieved primarily through analysis of secondary data sources generated by EIA capacity-building programmes. This was augmented in some cases by data from direct observation.

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[6] Initially the researcher had anticipated employing a Vietnamese local to assist with translation and interpretation during key informant interviews. However, in every case, the key informant was either sufficiently skilled and comfortable speaking English or provided their own translator. English language competency was suggested by one key informant as a crucial means by which Vietnamese institutions ensure successful interactions with development aid agencies and increase their share of financial aid.

3. The third research objective ("To determine the aims of, rationale for, response to and outcomes of EIA capacity-building programmes carried out by development aid agencies in Viet Nam") was achieved primarily through the use of unstandardised interviewing, and to a lesser extent, through the use of content analysis applied to secondary data sources.

4. The fourth research objective ("To develop specific policy guidelines on capacity-building programming which can lead to greater acceptance of the planning model of EIA in Viet Nam and other similar development contexts") was achieved through the analysis of research results from all research methods.

1.8 Ethical Considerations

The main ethical considerations of this research were concentrated in the key informant interview phase since other research methods involved either secondary data already in the public domain or unobtrusive observation. Key informants were highly educated Vietnamese or expatriate academics, government officials or development agency staff, and thus, informed consent was obtained verbally or in writing as was deemed culturally appropriate. All key informant interviews conformed to the University of British Columbia and SSHRC Ethical Review guidelines: key informants were informed of the research topic when they were first contacted (key informants were given a verbal or written explanation of the research before each interview request), and all interview subjects were given the opportunity to consent to or decline interviews. In a few instances key informants specifically asked that their names not be linked to their comments or opinions, and all

informants were assured that names and other identifying features (e.g. specific job titles or specific job levels linked to institution names) would be deleted from all research publications, conference presentations and this dissertation. Following submission of the final research document, an executive summary will be produced and mailed to a range of key informants in Viet Nam.

1.9 Dissertation overview

Chapter Two traces the range of perspectives found in academic literature on EIA in developing countries. The first part of the chapter reviews selected literature on environmental impact assessment, concentrating on that which: traces the history and spread of EIA to developing countries; evaluates the successes and failures of EIA 'as practised' internationally; addresses the question "what conceptual model of EIA is most appropriate for developing countries?", or; examines the experience to date with EIA capacity-building. Divergence of opinion is identified around seven major themes, and the argument is made that these themes usefully describe two opposing conceptual models of EIA, the "technical" and "planning" models. The overall purpose of the chapter is to establish an analytical framework for research on EIA capacity-building programmes in Viet Nam.

Chapter Three introduces the context within with environmental impact assessment currently operates in Viet Nam. Viet Nam's development planning challenges are summarised, and a historical analysis of the development and implementation of EIA in Viet Nam (and the model of EIA practiced to date) is presented. The transition of EIA's emergence from academic concept to implemented reality is traced, and the limitations of

Viet Nam's current process are outlined. The chapter then introduces a series of nine EIA capacity-building programmes sponsored by development aid in the country since 1994.

Chapter Four presents results from the analysis of three main bodies of data gathered during the course of field research: 1) key informant interviews; 2) documents issued by development aid agency EIA capacity-building programmes, and; 3) participant observation of EIA capacity-building programme activities. Research results are organised around the seven themes which comprise the analytical framework identified in Chapter Two. Factors influencing the model of EIA promoted by capacity-building programmes are then identified, and the positive and negative responses to such programmes by Vietnamese counterparts are explored. The chapter concludes with a summary of the main research findings.

Chapter Five is a discussion and interpretation of the research results presented in Chapter Four, and where appropriate, links back to the body of academic literature traced in Chapter Two. The chapter opens with a discussion of the influence and successes EIA capacity-building programmes have had in Viet Nam. This is followed by discussion of 'unmet needs', or the capacity-building yet to be undertaken in order to stimulate the emergence of a planning model of EIA. The chapter then traces the 'roots of resistance' to a planning model in both development aid agencies and Vietnamese counterparts. The chapter confronts the question of whether the model of EIA promoted by aid agencies is likely to assist the Vietnamese government in achieving its 1992 UNCED sustainable development

goals. The chapter closes with a discussion of whether research results are specific to Viet Nam or applicable more widely to other developing countries.

Chapter Six highlights the implications of the research, which are grouped into three main categories: 1) implications for the Viet Nam government; 2) academic implications, and 3) implications for development aid agencies. The chapter concludes with the presentation of guidelines for EIA capacity-building programmes in developing countries, which are designed to assist aid agencies in promoting a more complete 'planning model of EIA' in Viet Nam and other developing countries. The chapter ends with a call for aid agencies to reconceptualise EIA capacity-building as a means to transform the development planning processes of developing countries, and in doing so, position EIA as a means by which to stimulate sustainable development.

Chapter Two

CHAPTER TWO - THE THEORY AND PRACTICE OF ENVIRONMENTAL IMPACT ASSESSMENT IN DEVELOPING COUNTRIES

2.1 Origin of EIA in Developed Countries

Environmental impact assessment emerged out of the United States where it was first recognised that development planning procedures failed to account for adverse environmental externalities of development. Thus, the so-called 'rational/comprehensive' style of planning then in vogue was recognised as being less-than-comprehensive in practice, casting the rationality of decisions into doubt (House 1976, Rodgers 1976, Hundloe *et. al.* 1990, Smith 1993, Ortolano and Shepherd 1995, Vanclay and Bronstein 1995). As part of the US National Environmental Protection Act (US-NEPA) of 1969, EIA was cast as an action-forcing mechanism by which government agencies could "ascertain the probable environmental consequences of their actions" (Caldwell 1989a, 10) and so these could be "modified or redirected" toward more benign alternatives. The basic purpose of EIA under US-NEPA was to "broaden and strengthen the role of foresight in governmental planning and decision making" (Caldwell 1989b, 7). Assessment was to be conducted primarily through the "data and interpretations derived from science" and would, as a secondary benefit, systematise "public planning in a democratic society" (Caldwell 1989a, 26).

The development of EIA under US-NEPA is best seen as a context- and time-specific response to problems identified within one country's development planning context, namely,

the United States in the late 1960's. Out of this context, the design of EIA was influenced by rational planning theory, reductionist and linear cause-effect thinking, existing approaches to technology assessment, risk assessment and cost-benefit analysis (Caldwell 1989b), the rise in public environmental awareness and activism, the wording of the US Constitution, and the US tendency to rely on litigation to determine the meaning of laws. One example of the influence of 'context' is related to the dominant planning approach in vogue at the time EIA emerged. In the years leading up to the emergence of US-NEPA, government had become staffed with an ever-expanding range of technical experts advising decision-makers on increasingly complex development schemes. The predominant attitude about development planning was that it was largely a technical exercise, requiring technical expertise to provide technical solutions (McAllister 1990). Although the late 1960's saw a backlash to this form of planning and a rise in calls for citizen involvement, technocratic planning approaches nonetheless held the dominant position within the US society and heavily influenced the form of EIA that emerged under US-NEPA.

Although difficult to describe exhaustively, the developmental and planning context within which EIA first emerged would include: a democratic society with an independent judiciary, rising public concern for environmental and social justice issues, large resource 'hinterlands' punctuated by a highly urbanised society, one of the most economically prosperous societies in the world, a sophisticated environmental monitoring and data manipulation capacity, and, a society in which there was an expanding faith in the capacity for scientific/technical forms of planning. Out of this context, EIA emerged as a rational, technical planning tool employing the assumptions and procedures of science while

providing for new, albeit limited, avenues for public involvement in public sector decision-making.

Although EIA emerged out of the specific political, legal, bureaucratic and developmental context of the United States *circa* the late 1960s, the same basic model was used by a host of industrialised nations, states and provinces as they rushed to "express their imitative approval" (Rees and Davis 1978, 601). This model, the technical model of EIA, structured EIA as: 1) a technical product and information input to rational planning (Hutchings 1978); 2) a reactive analysis of proposed development projects (Canter 1977, Boothroyd and Rees 1984, Rees 1988); 3) an application of scientific ecological knowledge to decision-making (Beanlands and Duinker 1983), and; 4) a predictive tool accurate enough to allow the rational selection of the best of a series of project or locational alternatives (Maclaren and Whitney 1985, Maragos and Carpenter 1990). Under the technical model of EIA, the focus is on the technical 'product' rather than the planning process within which EIA operates (Boothroyd and Rees 1984).

2.2 The Spread of EIA to Developing Countries and Role of Development Aid

Environmental impact assessment might have been confined to industrialised nations but for the pressure of non-governmental organisations (NGOs) concerned with the environmental and social impacts of development aid programmes. NGO concerns led to a successful US court challenge in 1975 which forced the US Agency for International Development (USAID) to comply with US-NEPA requirements even though USAID's area of operations was almost exclusively outside the United States (Printz 1978, Robinson 1992,

Ortolano and Shepherd 1995). By the late 1970s, non-governmental organisations had pressured many other bilateral and multilateral development aid agencies to adopt increasingly formal environmental and social reviews of proposed aid programmes. Other bilateral development aid agencies around the world were forced to adhere to their country's EIA requirements extra-territorially. In 1983, NGOs from developed and developing countries launched a coordinated effort to stimulate additional policy, operations and lending reforms among development aid agencies, particularly the World Bank (Haeuber 1992). Major responses by aid agencies to this effort have been the creation of environmental departments, direct lending for environment-themed aid projects, and the development and use of EIA procedures for aid programmes worldwide (Haeuber 1992, World Bank 1996). The examination of development aid projects for likely impacts on the environment is now standard practice among most aid agencies (World Bank 1996).

At the same time that development aid agencies began subjecting their own projects to EIA, the agencies found a new policy mandate: to assist developing countries in establishing and strengthening the capacity to conduct environmental impact assessment. In 1976, USAID adopted the official policy goal of assisting developing countries in "strengthening their appreciation and ability to evaluate potential environmental effects of their development strategies and projects" (Printz 1978, 47), and a similar goal was eventually adopted as an amendment to the US Foreign Assistance Act (Welles 1995). The late 1980s saw major swings in policy on the part of the World Bank, the Asian Development Bank and bilateral donors toward sustainability initiatives such as EIA (MacAndrews 1994). The UNDP's Environmental Strategy and Action Plan set out the goal of enhancing the

"institutional and managerial capacity of developing countries to formulate and implement policies that promote sustainable development" (Malik 1995, 97). Several European bilateral aid agencies adopted the mandate of "enlarging the capacities of the developing countries to cope with their own environmental problems", particularly through impact assessment (Simonis 1990, 130). Similarly, shortly after the World Bank established its own NEPA-style operational directive on environmental assessment (World Bank 1991a, World Bank 1991b, World Bank 1991c), an internal environmental review stated the need for the World Bank programming "...to strengthen borrowers' capacity to conduct effective environmental assessments" (World Bank 1992, 15). The Canadian International Development Agency (CIDA) has incorporated EIA into its internal programming since the late 1980's (Robinson 1992), and in the 1990s, has begun to include EIA capacity-building into its foreign aid programming. By 1994, The Asian Development Bank had funded over 210 institutional strengthening and technical aid projects related to environmental management, some specifically related to EIA capacity-building, and this trend has continued to the present (ADB 1994a, Haigler-Bailly 1996).

These activities notwithstanding, it is worthwhile examining further how EIA has (or has not) meshed with the development planning contexts found in developing countries. It is argued here that the poor results from initial attempts to implement EIA in developing countries (i.e. the lack of significant reductions in negative environmental or social impacts of development), has created the rationale for subsequent development aid capacity-building programmes. This idea is explored in the following sections.

2.2.1 Development Planning Context as an Influence on EIA

Within the literature on EIA and environmental planning in developing countries are many attempts to generalise about the development planning context typically found in developing countries, and the effect such a context has had on the operation of EIA and subsequent EIA capacity-building efforts. The following paragraphs are a summary of commentary provided by 26 authors who have explored these themes (Abel and Stocking 1981, Murphy 1982, Webber 1983, Kennedy 1985, Mayda 1985, Smith 1985, Lohani 1986, Roque 1986, Towle 1987, Cartwright 1989, Adams 1990, Henry 1990, Rickson et. al. 1990, Atkinson 1991a, Kolo 1991, Turnham 1991, World Bank 1991a, Bisset 1992, Escobar 1992, Biswas 1993, Ebisemiju 1993, Wood 1993, Appiah-Opoku 1994b, MacAndrews 1994, MacDonald 1994, Onorio and Morgan 1995).

In general, institutional, administrative and management structures relating to the environment are weak and underfunded in developing countries, and there are significant shortages of personnel trained in environmental planning. Although existing legislation for environmental planning may be sophisticated[7], enforcement, and the commitment to enforcement, is usually weak to non-existent. Informal processes allowing EIA requirements to be circumvented are common. Ecological and social data pertinent to EIA are lacking or inaccurate, and existing data are not shared widely. Data processing, storage, and retrieval capacities are generally very limited. The combination of high foreign debt loads and widespread poverty dictates that the most important concern of governments and individuals

[7] Although environmental legislation may be sophisticated, Kennedy (1985, 288) has cautioned that, typically, such legislation does not form a comprehensive framework. Large legal gaps usually exist in the frameworks of most developing countries, and new legislation is added on a piecemeal basis whenever specific problems have been identified.

in developing countries is the unwavering commitment to economic growth, and environmental concerns are poorly developed by comparison.

Decision-making processes associated with development planning, often a legacy of elitist colonial bureaucratic structures, are usually highly centralised and compartmentalised. This typically results in the concentration of authority among a small group of powerful elite housed in a highly sectoral governance structure, which often leads to power struggles, 'turf protection', and resistance to integrated or coordinated planning. The formal training of most development planning bureaucrats is in economic or technical/scientific disciplines, reinforcing the tendency to view environmental planning as a technical or scientific input *to* planning, rather than participatory process *of* planning. As well, public participation in planning is commonly viewed as inefficient, time-consuming or politically dangerous. In general, the development planning processes of developing countries are heavily influenced by powerful elites: feasibility studies are routinely 'corrected' to reflect more positively on the politically-preferred option, corruption and bribery are important decision-making factors, and the final siting and approval of development initiatives are regularly determined by political rather than environmental considerations. Decentralised forms of planning, the devolution of planning authority, and the involvement of the public in scrutinising or affecting governmental decision-making, are even less acceptable to developing country governments than their counterparts in developed countries. Into this development planning context can also be added the generally poor state of knowledge about the impacts of development disturbances in tropical ecosystems.

In such a context, environmental planning initiatives such as EIA have typically occupied a marginalised position in the development planning processes of most developing countries, being assigned a mitigatory rather than strategic role in the planning process, and have usually been radically underfunded. Reflecting the primacy of development and economic growth concerns, environmental concern is generally low in both mass society and the development planning bureaucracy, and there is a perception that development will necessarily involve environmental degradation. Crucially, environmental planning processes such as EIA, in order to integrate easily with the development planning status quo of developing countries, have typically been conceived of as a technical/scientific, rather than participatory, exercise.

2.2.2 The Aid Response: EIA Capacity-Building

With EIA generally occupying a marginalised and ineffective position in developing countries, development aid agencies have recognised the need for EIA capacity-building as a new development mandate (Malik 1995, Robinson 1992, Simonis 1990, World Bank 1992). This new mandate, and the model of EIA used internally for aid agency projects, are both key to an understanding of the spread of EIA to developing countries[8]. Many developing countries, under pressure from development aid agencies and wanting to mimic western approaches to development (Appiah-Opoku 1994b), have enacted their own EIA requirements, but according to Wandesforde-Smith and Moreira (1985) have largely based these on the technical model first designed under US-NEPA. In addition to their role as

[8] A partial list of development agencies which both use EIA for their own projects, and support EIA capacity-building programmes in developing countries includes: The Asian Development Bank (ADB), Canadian International Development Agency (CIDA), United States Agency for International Development (USAID), The World Bank, The German Development Aid Agency (GTZ),The Swedish Development Aid Agency (SIDA), and the OECD Development Assistance

agents of pressure, development aid agencies have provided much of the financial and technical EIA assistance, and have prepared a host of EIA guidelines for use both within the agency and as a procedural framework for developing countries (see for example: UNEP 1988, UN-ESCAP 1990, The World Bank 1991a-c, Asian Development Bank 1993b)[9]. Significantly, most development aid is conceived of in the form of projects, and the model of EIA used to assess such aid is highly project-focused.

By the early 1980s, the "combination of pressure and assistance" from foreign aid had produced the expected results: developing countries, particularly in Asia and Latin America, began to adopt EIA within their development planning and regulatory frameworks (Wandesforde-Smith and Moreira 1985, 224)[10]. As of 1991 Ebisemiju (1993, 248) documented 19 developing countries with formal EIA systems, and in 1995 Ortolano and Shepherd (1995, 3) estimated that more than half the countries in the world employed EIA on at least an ad hoc basis. For the most part, developing countries: "...have not had to define for themselves the problems for which EIA is presumably the solution; aid agencies and others have done this for them" (Wandesforde-Smith and Moreira 1985, 224). Most commonly, a technical model of EIA, bearing strong resemblance to US-NEPA approaches, has been transferred to developing countries and "it has not seemed important...to confront the question of what it takes, apart from will and commitment on the part of those at the top of

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Group.

[9] Such guidelines are based largely on a technical model of EIA and are formulated as generic approaches to EIA to be used in all contexts.

[10] Others have suggested that Latin American countries have been slow to adopt EIA. Robinson (1992), in an international review of EIA, noted that many Latin American countries (as well as those in the Middle East and Africa) had *not* adopted EIA. This contradictory analysis is likely the result of definitional issues (e.g., are Central American countries included or excluded under both authors' 'Latin America' designations? Are EIA systems judged to be present by both authors if they are not formally legislated?).

the system, to make EIA work in the developing world" (Wandesforde-Smith and Moreira 1985, 225).

2.3 General Benefits of EIA for Developing Countries

> There is little doubting the importance of EIA as a concept...The central question is how EIA is made to work within the established political and institutional frameworks in different countries and, in turn, what effect these frameworks will have upon the effective implementation of EIA.
> (Clark and Herington 1988, 4)

Although the literature is not always explicit about the model of EIA that is being discussed, and there is danger in generalising about *all* developing countries, there is a "near consensus that environmental impact assessment and review processes are essential" for developing countries (Leonen and Santiago 1993, 172). This support has resulted from observations about general benefits linked to the presence of EIA in a country's development planning system: these benefits transcend the model of EIA chosen, although differing models are likely to confer greater or lesser benefits.

Support for EIA starts from the almost universally held position that some level of economic growth and development is needed in developing countries in order to achieve ideals of sustainability (Biswas and Agarwal 1992, Goodland and Daly 1992a, Devlin and Yap 1994, Goodland 1994, Sankoh 1996). Unlike developed countries, with regard to which some critics contend that present levels of economic activity and material consumption must be *reduced* in order to achieve sustainability (Wackernagel and Rees 1996, 33), the legitimacy of the need for actions to stimulate at least a minimal level of growth and development in developing countries is hardly questioned. With the legitimacy of growth and

development established, EIA is generally seen as the single best "operational tool to approach sustainability in projects so far available" (Goodland and Daly 1992a, 38)[11].

Four general benefits of adding EIA to a country's development planning and regulatory framework have been identified in the literature: 1) as a means of enhancing resource use efficiencies; 2) as a way of making progress towards sustainability goals; 3) as a means of influencing and guiding investment, and; 4) as a means of fostering social learning. These are explored in turn below.

2.3.1 Enhances Resource Use Efficiencies

The first benefit of EIA is its potential to induce *resource use efficiencies*, by reducing the environmental degradation caused by policies, plans and projects meant to stimulate growth and development (Hollick 1986). The literature generally recognises that if the resource base of a developing country (upon which a majority of citizens, especially rural-dwellers, depend) is not used in an efficient manner, acceptable minimum standards of living may never be achieved, and environmental degradation linked to poverty may never be arrested. The literature also indicates a general sense that, prior to the introduction of EIA, the planning regulations and controls of most developing countries are inadequate to the task of ensuring resource use efficiencies (Ebisemiju 1993). One of the primary ways in which EIA is seen to contribute to resource use efficiencies is through the "internalization of environmental externalities" (Goodland and Daly 1992b, 70). In theory, this occurs when EIA is successful in anticipating negative environmental externalities (such as habitat

[11] Although Goodland and Daly referred to EIA at a project level, they acknowledged that their position reflected the limitations and biases of the World Bank, and that developing countries should be responsible for the enactment of "macro-

degradation, species declines or increased pollution), and the costs of such externalities are factored into decision-making about development, rather than simply ignoring them.

2.3.2 Sustainability Tool

A second benefit of EIA identified in the literature is its potential to *translate sustainability principles into strategy and action* (Holtz 1990, Sadler and Jacobs 1990, George 1999). EIA is seen as providing an important, albeit reformist, means by which to intervene positively in existing economic and political systems (Clark and Herington 1988), and to provide a bridge between present forms of development and those envisaged under sustainable development ideals (Doberstein 1994). Most developing countries have serious domestic ecological problems and long-term change in developmental patterns is thus needed for a transition to sustainability. Yet radical change is antithetical to most government bureaucracies, and mechanisms such as EIA can provide incremental change while being politically acceptable. One example of this is EIA's tendency to foster more cooperative, integrative and intersectoral approaches to planning (Hollick 1986, Bartlett 1989, McNeely 1990, Robinson 1992, Goodland and Daly 1992a). This is of particular benefit to developing countries, where a multitude of government ministries, non-governmental organisations and individual actors are involved in overall development planning. Goodland (1994, 286) referred to the multitude of conditions required by sustainability as 'enabling conditions', and it is in this light that EIA has its strongest support in the literature. Impact assessment is not seen in the literature as the one and only means by which to ensure sustainability in developing countries, rather, it is viewed as but one in a long list of enabling conditions for sustainability. EIA, as a "general strategy of policy making and administration", (Bartlett

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level" approaches to EIA and sustainability similar to those suggested by the World Bank (Goodland and Daly 1992b, 68).

1989, 1) is thus viewed as pragmatic instrument for long-term institutional adaptation, reform and change (Lim 1985).

2.3.3 Influences Development Investment

A third important benefit of EIA for developing countries is the ability of the impact assessment process to either *control or attract development investment.* Impact assessment remains one of the few environmental policy instruments that can directly challenge private sector investments at the level at which they are typically proposed to developing countries - the project level. The increasing globalisation of private sector investment capital has led to a situation where the presence or absence of environmental policies and controls are a significant factor in the siting, level and nature of private sector development investment (Baker 1987, Biswas 1993, Leonen and Santiago 1993). Thus, developing countries are well served, over the long term, by the application of environmental policies and regulations which can remove regulatory laxity as an investment decision-making factor. As well, much of the investment capital for developing countries comes from development aid funding sources. With development-aid funding becoming increasingly conditional upon the completion of EIA studies (Wandesforde-Smith and Moreira 1985), the use of EIA in developing countries is simply a pragmatic response to aid conditionality[12] and a means by which developing countries ensure that development aid flows continue.

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[12] Clark and Herington (1988, 1) noted that development assistance agencies subject to "growing political debate" by organised pressure groups have responded by reforming their procedures to "permit explicit treatment of environmental

2.3.4 Fosters Social Learning

A fourth potential benefit identified in the literature is the contribution of EIA to *social learning* (Rees and Boothroyd 1987, Bartlett 1989, Caldwell 1989b, Boothroyd 1995, Webler *et. al.* 1995). Social learning has been described as "the process by which changes in the social condition occur - particularly changes in popular awareness and changes in how individuals see their private interests linked with the shared interests of their fellow citizens" (Webler *et. al.* 1995, 445). Social learning occurs largely as a result of public involvement[13] in the EIA process, and is an especially important benefit for the relatively non-participatory and closed decision-making systems of developing countries. EIA can contribute to social learning when it reveals "the insufficiency of the information upon which society and government often propose to act" (Caldwell 1989b, 13). In some cases, social learning may be illusory: concern and learning about the environment may not change significantly, but concern for and learning about the need to include environmental concerns in development planning may show up as *de facto* social learning. However, even if social learning is of this nature, public involvement stimulated by EIA is seen as one way to confirm or refute whether the proposed public project or private investment matches a public need, or contributes positively to public gains (Ahmad and Sammy 1985). In contributing to social learning, EIA is seen, at minimum, as sensitising, educating and raising awareness about the unintended negative environmental and social impacts of development amongst bureaucrats, political leaders, development proponents and the general public (Renwick 1988, Briassoulis

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factors in decision making", largely through environmental impact assessment requirements.

[13] *Public involvement* has been defined by Roberts (1995, 224) as "a process for involving the public in the decision-making process of an organization" which "can be brought about through either *consultation* or *participation*, the key difference being the degree to which those involved in the process are able to influence, share, or control the decision making". Roberts distinguished between *consultation*, which includes education, information sharing and negotiation as part of a goal of better organisational decision-making, and *participation*, which actually brings the public into the decision-making process. His definitions and distinctions are applied throughout this dissertation.

1989, Slocombe 1993, McDonald and Brown 1995). This sensitisation is thought to occur gradually over time due to repeated and systematic demands for the consideration of environmental and social side-effects in development proposals.

As a component of social learning, the process of EIA has been described as potentially providing "more significant (benefits) than the product" (La Prestre 1995 in Malik 1995, 101). This is particularly so in its role as a catalyst in "...redistributing influence among the actors involved in conceiving and executing development plans" (Wandesforde-Smith *et. al.* 1985, 204). Ortolano and Shepherd (1995, 8-9) were specific in citing instances where EIA contributed to social learning, resulting in the withdrawal of unsound projects, the legitimation of sound projects, the selection of improved project location, the reformulation of plans (and planning processes), and the redefinition of goals and responsibilities of project proponents. Although difficult to document empirically, some authors also link the social learning benefit of EIA to the emergence of less environmentally- and socially-damaging projects at the *design* stage (Hollick 1986, Renwick 1988, Burdge 1990, McDonald and Brown 1995).

These four general benefits are exceedingly important for developing countries: as development proceeds, EIA forces a wide constituency to incorporate environmental and social concerns into decision-making frameworks. Impact assessment also stimulates learning about the need for more comprehensive planning reforms beyond the decision-making arena directly affected by its procedural requirements (Briassoulis 1989). Prior to the advent of EIA in developing countries, large scale projects were often implemented without

any environmental consideration. Just as often, such projects proceeded even though local residents did not express a need for the project, were not consulted about details of the project, and did not benefit directly from the project's operation. Ultimately, much of the literature on EIA in developing countries agrees that EIA can be, and is, an influential means by which to guide and affect development policy.

2.4 Conceptual Dualism in Environmental Impact Assessment

Where divergence is strongest within the literature on EIA in developing countries is in normative disagreements about the theory and concepts that should underpin EIA practice. Thus, although EIA is largely accepted as a beneficial planning procedure for developing countries, the most *appropriate model* of EIA for developing countries remains hotly debated.

There is an abundant literature supporting the transfer to developing countries of a model of EIA similar to that first employed in the developed countries where its use was pioneered. Referred to hereafter as the 'technical' model of EIA (after Boothroyd and Rees 1984, 1), impact assessment is conceived of as a rational/technical product, using scientific techniques and skilled technicians to predict, preferably through quantitative means, the environmental and social impacts of a proposed development project. This model:

> ...shares the core concepts central to traditional models of planning processes. As in the comprehensive-rational planning model, the procedural structure of (the technical model of) EIA includes analysis of the situation, goal setting, generation of alternatives and evaluation of consequences...
>
> (Lim 1985, 135)

The literature supporting the use of the technical model[14] of EIA in developing countries is based on the dual perception that the model has been successful in achieving its goals in a developed country context, and that these successes can be replicated in developing countries.

Although the technical model depicts EIA as a largely rational/scientific product, critics point out that EIA also constitutes a value-laden sociopolitical process within development planning (Boothroyd and Rees 1984, Smith 1993, Lawrence 1994a, Sankoh 1996). Critics of the technical model argue that, particularly in developing countries, such a model tends to foster elitist and technocratic planning. As well, they argue that the model fosters planning which is reactive to development proposals and thus, cannot guide the overall direction of development toward sustainability. These critics argue that the model can only marginally reduce the most egregious components of development. They further argue that the model dismisses the often useful environmental knowledge housed within indigenous societies, and assumes an ability to predict accurately that is simply not possible given the state of knowledge about ecological and social systems. The model is criticised for its tendency to analyse environmental, social and economic impacts separately, without an holistic attempt to bring these analyses together for final decision-making (Lawrence 1994a).

In response to these and other criticisms of the technical model of EIA, a relatively smaller but growing literature has argued that the technical model is not performing well in the context in which it was originally designed to operate and requires reconceptualisation

[14] It should be stressed that, similar to the way in which many planners do not distinguish 'planning' from 'comprehensive-rational' planning, many EIA practitioners see only one model of EIA, the technical model.

before its transfer to developing countries (Berger 1984, Towle 1987, Tester 1989, Appiah-Opoku 1994a, Jiggins 1995, Sankoh 1996). For the purposes of this dissertation, the emerging model advocated by critics has been termed the 'planning' model of EIA (after Boothroyd and Rees 1984, and Spaling and Smit 1993). To these critics, EIA requires recasting in a planning model which incorporates: 1) a participatory decision-making process which promotes equity in development; 2) a proactive and continuing assessment of macroscale development directions (e.g. whether development is proceeding towards or away from a sustainable path); 3) a planning process that incorporates 'multiple ways of knowing' (i.e., indigenous as well as scientific knowledge), and; 4) a planning process with ecological and social uncertainty as a central organising feature. The planning model of EIA, unlike the technical model, informs the process of development planning continuously, and in addition to using rational/comprehensive planning approaches, stresses the benefits of using other forms of planning such as participatory planning or advocacy planning.

Although the 'planning model' of EIA is not yet consistently labeled as such in the literature, this dissertation argues that the body of criticism that surrounds the technical model of EIA has led to alternative conceptions which comprise an identifiable conceptual model. Perhaps just as importantly, this dichotomous conception of models of EIA serves as a useful organising feature in discussions of the vast literature pertaining to the design and use of EIA procedures, and the smaller literature on its use in developing countries. It also serves as a useful analytical framework when conducting empirical research on the EIA processes emerging in many developing countries, and the multitude of factors affecting these.

2.5 EIA Model Determinants

Notwithstanding general agreements that EIA provides positive benefits for developing countries, and occasional misperceptions that EIA is a more or less "standardized" process (see Werner 1992, 16), there is a significant divergence of opinion in the literature about how EIA should be conceptualised and implemented[15]. As introduced in Chapter One, this divergence is centred around seven main themes:

1) Role of EIA in Planning: There is divergence about whether EIA should be seen as providing a reactive technical product for use as an input to technocratic decision-making, or whether it should be a proactive part of the political planning process of developing countries.

2) Scale of Assessment Activities: There is divergence about whether EIA in developing countries should focus on the direct impacts of micro-scale 'means' of development (i.e., projects), or whether it should be more broadly defined to consider secondary impacts and the entire range of development planning 'means' and 'ends' (i.e., from the project- and plan-specific implementation of development policies up to the regional and cumulative effects of development policies and programmes).

3) Knowledge Certainty: There is divergence about whether EIA should operate from a position of: knowledge certainty (i.e., the state of scientific knowledge is complete enough to allow accurate predictions and 'rational' planning decisions to be made about complex ecological and societal systems), or: knowledge uncertainty (i.e., the state of knowledge is such that accurate predictions are impossible (due to the inherent unpredictability of ecological and social systems), implying a cautious, experimental and adaptive approach based on assumptions of knowledge uncertainty).

4) Epistemology Underlying EIA: There is divergence about whether EIA should be based solely upon 'traditional science' (objective, mechanistic, reductionist science as a basis of prediction about ecological and social systems) or whether EIA should be based on 'multiple ways of knowing' about the environment (which, in addition to traditional science, includes indigenous knowledge, needs, values and attitudes).

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[15] Much of the literature does not differentiate between developed and developing country contexts, however, the researcher has attempted to separate opinion about how EIA should be conceptualised specifically for a developing country context from that expressed more generically about the need for EIA reform.

5) Timing and Length of Assessment - There is divergence about whether EIA should be conducted as a one-shot (discrete) study, or as an ongoing (continuous) process of planning and environmental management. There is also divergence about the point at which EIA activities should begin (ranging from 'after the project design stage is finished' to 'as a component of project and policy formulation') and end (ranging from 'after project approval' to 'continuing over the life of the development').

6) Public Involvement- There is divergence about both the *stage* at which the public should be brought into the EIA process (ranging from 'the final documentation/presentation stages' to 'the earliest possible moment'), and the *level* of public involvement in the EIA process (ranging from public 'persuasion' and 'education', to 'delegated authority' and 'self-determination').

7) Planning Theory Basis – There is divergence about whether rational comprehensive planning theory should underpin the practice of EIA, or whether an alternative planning theory (or a combination of theories) should provide guidance.

It is suggested here that these seven themes usefully describe and define two opposing models of EIA, the 'technical model of EIA' and the 'planning model of EIA'. It should be noted that these models are idealised conceptions, and that in practice, combinations incorporating aspects of each model can exist. Thus, EIA practice may be based on a technical model, yet incorporate a multiple epistemological perspective, or it may be based on a planning model yet be applied exclusively to projects. Each of the two models is described in detail in the following section.

2.6 The Technical Model of Environmental Impact Assessment

The technical model of EIA developed under a technocratic engineering and scientific paradigm as a planning tool, where impact assessments would be performed in order to quantify, forecast and evaluate the impacts of a proposed project and its alternatives

(Ortolano and Shepherd 1995). Despite specifications[16] that EIA should be conducted on all significant government and private 'actions' (conceivably ranging from policies and programmes to individual plans and projects), the more than 25 years of EIA practice has clarified that project-level assessment constitutes the normal application of a technical model of EIA (Rees and Boothroyd 1987, Ortolano and Shepherd 1995).

2.6.1 Model Characteristics

A number of other names have been used in the literature to describe what is referred to in this dissertation as the technical model, and listing these names provides an appropriate first attempt at describing its character. The technical model has been referred to as: "technological assessment" (Tribe 1973); the "positivist technical" approach (Rees 1985); "technocratic" EIA (Torgerson 1981, Benson 1982, Jiggins 1995); the "scientific" approach (Spaling and Smit 1993), "conventional" EIA (Lawrence 1994a); the "standard" approach (Eedy 1995); the "adversary" approach (Connor 1981) and; the "passive" model of EIA (McDonald and Brown 1995).

2.6.2 Benefits of the Technical Model

One benefit that the technical model of EIA confers is "the ease with which it can be implemented within existing procedures and practice" (Wathern *et. al.* 1988, 104). The model represents only an incremental change to the traditional ways in which development planning has been conducted throughout the developed and developing world, which, as evidenced by its quick spread and institutionalisation in a diverse range of planning regimes worldwide, is a benefit at the implementation stage. Although some writers have viewed the

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[16] Including: Canada's now defunct Environmental Assessment and Review Process (EARP) and its replacement, the

technical model of EIA as a positive incremental move toward more holistic, integrated and interdisciplinary approaches to development decision-making (House 1976), others see it as essentially a modified continuation of the "rational planning" approach (Adams 1990) employing reductionist science (Sadler 1986). The latter view is supported by two typical features of the EIA process: 1) the information typically considered relevant to EIA is highly scientific and quantitative, and; 2) the 'boundaries' or scope typically set for EIA are typically narrow in order to ensure problem tractability. Although the technical model of EIA is only incrementally different from prevailing forms of development planning, and is thus seen as relatively easy to implement, it has also been heavily criticised on this basis. The model is seen as producing forms of development only incrementally less environmentally-damaging than the forms replaced.

The technical model of EIA, with its heavy reliance on scientifically-generated knowledge, has been beneficial in providing a platform upon which ongoing research on 'ecological and social responses to perturbation' has been justified, and through which insight has emerged. However, the record of predictive accuracy about system behaviours has been dismal (Beanlands and Duinker 1983, Berkes 1988, Rees 1988, Spaling *et. al.* 1993, Treweek 1995), and ironically, insight into the indeterminacy of ecosystemic behaviours has been bolstered by the unsatisfactory record of EIA studies over the last 25 years. However, when EIA is conducted under the technical model, there exists a potential to learn about ecosystems previously unknown to science (e.g., in hinterland or previously unstudied regions) regardless of the long term accuracy of predictions, simply because a pre-project research record is produced where none may have existed before. There have been calls for

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Environmental Assessment Act; US-NEPA, and; a host of other industrialised countries.

research adopting an experimental and continuous learning approach in which post-development system conditions are monitored and compared to the pre-development 'baseline' documented by EIA studies (Holling 1978, Beanlands and Duinker 1983). Notwithstanding knowledge that complex systems are likely to have multiple domains of stability (Holling 1986), the documentation of at least a minimal or 'snapshot' view about one of those domains is likely better than having no information at all: the technical model of EIA assures that such scientific information is a study priority.

Although the previously mentioned benefits of the technical model have been identified in EIA literature, it is common for the literature to discuss the technical model as if it is the only option available. Thus, it is rare to find a considered reflection about the technical model's benefits as compared to an alternative model. However, there is a relatively large literature which has been critical of the technical model's assumptions and limitations, and this literature is traced in the following section.

2.6.3 Criticisms of the Technical Model

> ...the classical-rational planning model is fundamentally flawed, primarily because it assumes rationality and certainty where neither is possible. Predictive capabilities, knowledge of intersystemic relationships, and understandings of developmental dynamics are all far more primitive than the model presumes (Webber 1983, 96).

Initial criticisms of EIA under the technical model centred on the poor quality of the scientific information generated by EIA impact prediction and evaluation methods (Rees and Davis 1978, Suter 1981). Under the rational planning ideals of the technical model, the

information relevant to decision-making should be value-free, objectively determined and scientific. Thus, EIA under the technical model was a tool and technique for generating information, and the quality of the scientific data, and the rigour of the reductionist approaches on which these data were based, were of key concern (Smith 1993). The first evaluations of the technical model, as practiced in the US up to the first half of the 1970s, yielded criticisms that were largely related to the quality, rigour and comprehensiveness of the reductionist science used. This resulted in a series of scientific texts on EIA (Canter 1977; Munn 1979: Ward 1978) and an explosion of articles, reports and books on 'how to do the science of impact assessment better'. It also resulted in criticisms about the "low level of experimental and theoretical development of ecology" (Cramer 1986, 325) within EIA. Subsequently, the predominant rationale in refining and developing various technical methods of impact assessment has been a concern for the poor level and quality of science within impact assessment (Smith 1993).

Criticisms of the technical model of EIA have proliferated and expanded in scope since the initial concern with scientific rigour. Treatment in any detail would be beyond the scope of this chapter and thus, commentary is restricted to the seven themes identified earlier.

2.6.3.1 Criticisms Related to the Role of EIA in Planning

With respect to the **role of EIA in planning**, much of the literature has been critical of the technical model's tendency to 'stand-alone' in isolation from other planning processes or goals. The technical model has not successfully integrated with national or regional decision-making (Ortolano and Shepherd 1995) and does not link with existing development

policies, programs, and other parallel planning processes (Rees 1985, Hollick 1986, Armour 1991 in Morrison 1995, Smith 1993). Furthermore, the model is not usually tied to any measure of maximum acceptable environmental disturbance such as regional carrying capacities (Rees 1988), is inadequate in the consideration of cumulative impacts (Rees 1988, Hundloe *et. al.* 1990, McDonald and Brown 1995), and at times, fails to integrate effectively with planning at the project level (Adams 1990).

The technical model has also been characterised in the literature as serving chiefly as a mitigator of the immediate local impacts of proposed projects, rather than more broadly questioning the need for the project or its contribution to regional or long-term environmental and social sustainability (Hollick 1986, Sadler 1986, Boothroyd 1995, McDonald and Brown 1995). This has been criticised by some as serving to "legitimize a decision-making process (EIA) was meant to change" (Ingram and Ullery 1977 in Atkinson 1991a, 403). In the same vein, other writers have critically questioned whether, under the technical model, serious consideration of alternatives to the proposal is possible or likely. Most development proponents are highly committed to one preferred alternative, and may not have the competence or motivation to carry out alternatives that do not fit closely with their existing values and capacities (Fairfax 1978, Smith 1993, Ortolano and Shepherd 1995). Furthermore, although it may be desirable to broaden EIA to examine regional development issues, this "may not coincide with a developer's spatial or financial boundaries" (C.P. Rees 1988, 151). Although some writers refer to the technical model as playing a role in "preventive" (Simonis 1990, 111; Mueller and McChesny 1994, 30) or "preventative" environmental planning (Robinson 1992, 593), the majority of the critical literature has judged the technical model of

EIA to play a reactive and non-creative role (Sadler 1986, Rees 1988, Caldwell 1989b, Cocklin *et. al.* 1992a, Spaling and Smit 1993, McDonald and Brown 1995) insufficient in challenging the root causes of environmental degradation.

2.6.3.2 Criticisms Related to the Scale of Assessment Activities

Linked to criticisms about the limited role the technical model of EIA has played in planning, are criticisms of the **scale of assessment activities**. Many writers have criticised the overt and persistent tendency of the technical model to focus on projects as if these were the sole agent of development or cause of environmental degradation (James *et. al.* 1983, Sadler 1986, Clark and Herington 1988, Rees 1988, Simonis 1990, Cocklin *et. al.* 1992a, Robinson 1992, Smith 1993, Ortolano and Shepherd 1995, Boothroyd 1995, Rees 1995). Clark (1994, 321) referred to this focus as a failure to match the "scales at which decisions are made (i.e., the program or policy level)" with "the scales at which environmental effects are assessed (i.e., the project level)". Sadler (1986, 109) pointed out that project-level EIA implicitly molded public policy and planning options, and the review of private projects drove public decision-making, "the exact opposite of the intended sequence of (planning)". Spaling *et. al.* (1993, 70) offered one plausible explanation for the project focus of the technical model, linking this to the availability of the scientific analytical tools required under its reductionist framework: such tools were deemed to be "...more highly developed for local scale assessment than regional or national" scales. At least one author has viewed this as a problem of the gulf between EIA theory and practice with the preoccupation to date with *project* environmental assessment being "*de facto* rather than *de jure*" (Sadler 1994 , 4).

However, Edmunds' (1981) analysis is perhaps the most convincing explanation of why the technical model has persisted in its focus on projects: when faced with the staggering information problems of attempting to predict the environmental effects of general policies or programmes, humans typically must engage in "bounded rationality" by "limiting the number of variables to those that can be humanly comprehended" (Edmunds 1981, 191). One powerful and politically acceptable way of bounding rationality within impact assessment has been to select the direct impacts of single projects as the limit of the assessment problem. The danger, as Edmunds pointed out, is that this approach "presumes to solve one problem...while unknowingly creating others". Tribe (1973) has noted that rationality can be bounded to the extent that it misrepresents the real world problem. In reducing the overall complexity of the assessment problem, a project focus can make inquiry more tractable, yet at the same time, create ecological damage by contributing to a misunderstanding of ecological reality.

2.6.3.3 Criticisms Related to Knowledge Certainty in EIA

> Every major project is a perturbation experiment with highly uncertain outcome, because the natural system has never yet experienced the impacts.
> (Carpenter 1999, 112)

Recent research has shown that ecological and social systems are typified by non-deterministic stress response behaviours. Thus, the technical models' starting position of **knowledge certainty** (through the predictability of supposedly static and mechanistic systems) is simply wrong. This criticism has been advanced broadly, both outside and inside EIA literature. Ecological research has demonstrated the inherently dynamic, not static, equilibria of ecosystems which can exhibit a range of properties and 'domains of stability'

susceptible to 'flipping' in surprising manner in the face of exogenous environmental influences and disturbances (Holling 1978, Bacow 1980, Holling 1986, Timmerman 1986). The point at which one dynamic equilibrium is disrupted, and the resulting characteristics of the new equilibrium, are at best difficult to predict and at worst impossible if the ecosystem exhibits chaotic behaviour. Chaos, in which even simple deterministic systems generate random behaviour, has created a new paradigm in scientific thought which admits fundamental limits to predictability (Crutchfield *et. al.* 1986).

EIA under the technical model is based on a supposition of supposed systemic equilibrium (Regier 1985) and is ill-prepared to cope with dynamic, unpredictable systemic behaviours (Spaling *et. al.* 1993, Holling 1978). As well, the technical model has a reductionist need for delineated system boundaries and greatly simplified representations of complex ecosystems, both of which virtually eliminate the possibility that predictions will be found to be accurate. Since the technical model is supposed to facilitate rational decision-making based on the prediction of ecosystemic responses, any inability to predict leads to the inability to make rational decisions involving the environment.

The track record in making accurate predictions in EIA is extremely weak (Beanlands and Duinker 1983, Treweek 1995) and more often than not, what are labeled predictions in EIA studies might more accurately be termed educated guesses (Doornkamp 1982a). As Ravetz (1986, 419) commented:

> It is relatively easy to build a dam to hold back river water...But to predict and eventually manage the manifold environmental changes *initiated* by that intrusion is another matter. The flows and cycles of energy and materials that

> are disrupted by the dam will, all unknown to us, take new patterns and then eventually present us with new, unexpected problems.

Post-EIA monitoring studies have demonstrated a surprising lack of accuracy in predicting the impacts of development projects, leading many authors conclude that most impacts may in fact be inherently unknowable before they occur (Berkes 1988, Boothroyd and Rees 1984, Holling 1978, Jones and Grieg 1985, Holling 1986, Timmerman 1986, Rees 1988, Carpenter 1995). Commenting about social systems, Torgerson (1981, 84) suggested that the science used within impact assessment might more accurately be described as 'trans-science': questions of fact which are stated in scientific terms, yet which are unanswerable by science and thus transcend science.

The difficulty in predicting the impacts of development proposals is not simply a function of difficulties in predicting systemic responses to change, it is also a function of difficulties in characterising the 'pre-development' system. One typical stage of the technical model of EIA, the characterisation of the pre-proposal ecological and social 'baseline', demonstrates a naive commitment to the belief that these systems are static and thus, amenable to 'snapshot' characterisation. Simonis (1990, 22) suggested that the variability of ecological and social systems, whether natural or as a result of existing human-induced stresses, is so great that "it is difficult to determine whether (it is) the action...causing an impact". In general, knowledge about ecological systems is still so poor that negative ecological effects may be functionally invisible until long after they emerge, or until some previously unknown critical ecological threshold is passed, possibly irreversibly (Rees 1995).

In summary, a growing literature suggests that the technical model's preoccupation with scientific prediction is misplaced, and "the typical EIA must provide recommendations and information for decision-making under conditions of incomplete information and with an unlimited uncertainty range" (Gallopin 1981, 55). For these reasons, knowledge uncertainty, rather than knowledge certainty, is a more accurate portrayal of the decision-making basis of EIA and development planning.

2.6.3.4 Criticisms Related to the Epistemology of EIA

The **epistemology** underlying the technical model of EIA, characterised as the objective/reductionist science view of nature, knowledge, and human interactions with nature, has been heavily criticised in the literature as an inappropriate basis for development planning. Under this view, the internal logic of nature is mechanical, and thus can be known, controlled, manipulated and predicted through scientific inquiry. As well, ecological and social impacts are usually treated quite separately under a scientific epistemology, and often, attempts to characterise social impacts do not involve the active participation of representative segments of potentially impacted societies. Kurian's (1995, 174) research on EIA in India suggested gendered differences in social impacts were not picked up under a technical model, rendering "a whole genre of knowledge inaccessible to the decisionmaking process". Ultimately, Norgaard (1994, 72) has argued that the "unsustainability of past development (patterns) has an epistemological explanation", and others have suggested that most planning and management practices designed to incorporate environmental concerns,

including the technical model of EIA, share the same inappropriate epistemological basis (Ravetz 1986, Tester 1989, Atkinson 1991a, Alvares 1992, Princen *et. al.* 1995)[17].

The epistemological view that scientifically structured inquiry is objective has been heavily criticised, as has its procedural extension, that rigorous inquiry about a project can be conducted by the project proponent (or hired designate) in an unbiased, apolitical and objective manner. When linked to the technical model, this has been referred to as the principle of 'self-assessment' (Rees 1985, Rees and Boothroyd 1987) which results in a conflict of interest and loss of objectivity (Treweek 1995). This leads "inevitably to distortions in the interpretation of results, most likely in the proposal's favour" (Rees and Boothroyd 1987, 5). Fearnside (1994, 28) documented the effect this principle had on the CIDA-funded preliminary environmental assessment of China's Three Gorges Dam, concluding that one should "not be surprised that the feasibility study found no problems" when estimates of the subsequent engineering, managerial and equipment contracts that would flow to the companies conducting the assessment stood at $1.3-1.9 billion Canadian dollars. The supposed objectivity of scientific inquiry under the technical model is thus largely a mirage, and EIA under the technical model is revealed more accurately to be a subjective study under the guise of objectivity.

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[17] Norgaard argued that the epistemology underlying most of Western planning and management practice (including the technical model of EIA) is composed of five flawed premises about nature and ecology:

- *Atomism* (systems are unchanging sums of their parts);
- *Mechanism* (there are fixed relationships between system parts, and any system changes are reversible);
- *Universalism* (diverse and complex phenomena are a result of relatively few universal principles which do not change over time and space);
- *Objectivism* (humans can stand outside of and apart from the phenomenon they attempt to understand), and;
- *Monism* (the diversity of attempts to understand complex systems is merging into a coherent understanding of the whole).

As a corollary to criticisms of the technical model's mode of inquiry, criticism has been leveled at the model's tendency to ignore, trivialise, or doubt potentially valid and useful alternative ways of knowing and thinking about the environment. Indigenous knowledge and the incorporation of values into environmental impact assessment are two examples of alternative epistemological bases that are marginalised within the technical model. Beauregard (1989, 385) referred to such a practice as the "scientific mode of legitimation", arguing that the tendency to ignore ascientific knowledge and information is a general feature of rational/technical modes of planning. When non-scientific (but socially accepted) knowledge is not incorporated into EIA, and the knowledge and values of technocrats are disproportionately represented, power imbalances between project proponents and indigenous communities are exacerbated and development opportunities bridging all levels of society are squandered (Jiggins 1995, McCreary 1995). These criticisms are particularly important for developing countries where, in many sectors of society, formal education and scientific knowledge are still the exception rather than the norm, and large power imbalances exist between government decision-makers and grassroots levels of society. The technical model thus discounts the observation that "objective, detached scientific knowledge is just one possible form among many" (Escobar 1992, 143).

The technical model's epistemological perspective is that a single value-system (that of the scientifically-trained assessor) can be used to identify and predict all the important consequences of a development proposal (Abel and Stocking 1981, McCreary 1995). Alternative ways of knowing and valuing, such as those classified as 'indigenous knowledge', are ill understood by environmental planners (Atkinson 1991b), or judged to be problematic

for use in the technical model since there are no standards by which the knowledge can be recorded, categorised, analysed or tested in a scientific manner (Cole 1993 in Kennett and Perl 1995). Thus, in a self-reinforcing argument, indigenous knowledge cannot be used by the technical model since it does not conform to the model's epistemological basis, and scientific inquiry alone is sufficient to elicit all important information. Ways of knowing and valuing the environment other than through those of scientific inquiry are neither required nor allowed under the technical model.

2.6.3.5 Criticisms Related to the Timing and Length of EIA Activities

With respect to the **timing and length of assessment** activities, the literature has been critical of the technical model's tendency to treat the assessment of impacts as a discrete, short term "one-shot" (Rees 1985, 5) study which begins after the formal proposal of a development project and ends after mitigation measures for predicted negative effects have been identified. Criticism has come from two directions: the technical model is seen as being 'carried out too late' to significantly affect the design of proposals, and 'ending too soon' to be able to gauge the full range of impacts, and mitigate these through project alterations or phased implementation (McDonald and Brown 1995, 486). These criticisms reflect observations that proposed development projects often change dramatically over time (Ortolano and Shepherd 1995) and that the dominant themes in most environmental issues are uncertainty and surprise, necessitating a much longer view of environmental planning activity. Both observations suggest that long term monitoring, continuous learning, and the adaptation of projects to the results of monitoring should be an integral part of EIA activities (Abel and Stocking 1981, Jones and Grieg 1985, Imperial *et. al.* 1993).

2.6.3.6 Criticisms Related to Public Involvement in EIA

Public involvement in EIA has been a highly contentious issue in the literature relating to EIA in both developed and developing countries. Under the technical model, a development proposal is conceived of by a government or private proponent and a variety of formal public involvement opportunities are undertaken in order to provide information inputs to the EIA study. Although public involvement can be brought about through limited forms of public *consultation* or more powerful and extensive forms of public *participation*, the literature is critical that the technical model has a tendency to stop at public consultation with "no options for greater involvement" (Roberts 1995, 224)[18]. Rahnema (1992, 116) referred to this as "manipulated, or teleguided" involvement rather than "spontaneous" public involvement. Thus, under the technical model, the public are manipulated into becoming involved in the EIA process in a consultative role (through *persuasion, education, information feedback* and *consultation)*; but not in a spontaneous participation role (through *joint planning/shared decision making, delegated authority* or *self-determination*) (after Rahnema 1992 and Roberts 1995)[19].

Much of the criticism surrounding the technical model's approach to public involvement has been driven by the emergence of social concerns as a component of EIA, and by critiques of the model of social impact assessment (SIA) that co-evolved with EIA.

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[18] Roberts (1995, 224) identified the key difference as being the degree to which those involved in the process actually "influence, share or control the decision making". Public consultation has little power to affect decision-making, while public participation has relatively more power.

[19] Roberts identified a seven-stage continuum of public involvement within EIA, ranging from the least powerful form, 'persuasion' to the most powerful form 'self-determination'. Although not stated explicitly by Roberts, this is likely based on Arnstein's (1969) A Ladder of Citizen Participation which outlined a similar continuum of public participation. Arnstein's continuum ranged from non-participation, manipulation, therapy, and informing, to consultation, placation, partnership,

Although SIA did not emerge as a serious component of EIA until the mid-1970s (Boothroyd and Rees 1984), the United States' NEPA regulations nonetheless formalised public involvement and social concerns within the EIA process (Ingersoll 1990, IAIA-ICGP 1994, Burdge and Vanclay 1995). The evolution of SIA subsequently followed a familiar course: SIA first emerged as a social science sub-set of EIA with its own quantitative technical model (d'Amore 1981, Torgerson 1981), and since that time has seen the emergence of a model of SIA which is qualitative and participatory[20].

In its dependence on professional expertise, social science research and social systems thinking, the technical model of SIA has been criticised as a "profoundly elitist" approach which results in a concentration of "power and expertise in the hands of professionally-trained planners and analysts" rather than communities (Tester 1989, 16). As well, it has been criticised for treating potentially impacted communities as "passive patient(s) or victim(s) of the project development process" (Connor 1981, 135). Under the technical model of SIA, public involvement is limited to debates about the *means* of development (i.e. projects) rather than *ends* (i.e. the overall developmental direction of society) (Merton 1964 and Tester 1980 in Ingersoll 1990). Commenting on developed countries, Simonis (1990, 21) characterised the technical model as providing for a "token" form of public involvement, while Fairfax (1978) suggested the form of public input solicited

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delegated authority and, ultimately, full citizen control.

[20] Like the two extremes of EIA identified in this dissertation, other writers have used a dualistic framework where SIA approaches are viewed as "gravitating toward the opposing poles of a continuum" (Torgerson 1981, 73). Tester (1981) characterised the two extremes with respect to social impact assessment. The first approach, which he did not label, bears a strong resemblance to what has been referred to in this paper as the 'technical model': SIA is performed by a "detached observer", uses "objective" social science, depends upon scientific/mathematical models, and is conducted with the aim of producing an SIA "product" to be used as an input to decision-making. In contrast, he labeled the opposing extreme of SIA as the "alternative approach"(Tester 1981, 102), suggesting that SIA is performed by a "participant observer", uses "subjective" approaches that are more accurately termed an "art", depends upon qualitative and participatory research, and is conducted with the aim of facilitating the "process" of decision-making while only secondarily producing a product.

under a technical model was so formal, predictable, and proposal-oriented that it stifled, rather than stimulated, public involvement.

The question of the form and staging of public involvement in EIA is arguably an even more contentious issue in a developing country context. As Henry (1990, 100) and others have noted about developing countries, "development is a political process, and in that process decision-making rationality is derived primarily from considerations of political power and not from the social data produced by (the technical model of) SIA". In developing countries, public involvement under the technical model is not likely to move beyond public consultation. This is due to a series of factors: there is less likely to be a tradition of public participation or accountability in decision-making; national development policies and projects are determined by a political and economic elite that routinely exclude grassroots community levels (Henry 1990); judicial systems are less likely to be independent of political influence, and; there is an elitist perception that the average member of the public cannot understand the nature, scale and potential impacts of many proposals. Thus, public involvement under the technical model is likely to be an effort to persuade, educate or share information with the potentially 'affected publics', rather than facilitating their participation in development decision-making.

2.6.3.7 Criticisms Related to the Planning Theory Basis

The technical model of EIA follows the central tenets associated with rational/comprehensive planning theory, and many of the criticisms leveled at the technical model's epistemological and knowledge certainty base are applicable to a discussion of

rational planning theory[21]. Rational comprehensive planning, in its most basic form, embodies four main elements: 1) goal-setting; 2) identification of alternatives; 3) evaluation of alternatives, and; 4) implementation of decisions (Hudson 1979). Translating these elements to the technical model of EIA, the "goal" of the EIA process is to collect all environmental information relevant to a particular development proposal (and its identifiable "alternatives"), preferably by some form of quantitative forecasting model. Then, after "evaluating alternatives", an objective, rational decision is made about the least damaging alternative, and the "implementation of decisions" proceeds.

Critics have identified a series of major flaws with the rational planning theory which underlies the technical model: the theory is poor in dealing with lack of social agreement about a proposed action (Etzioni 1968); it erroneously assumes certainty in knowledge (Goldberg 1986); it places an over-reliance on quantification and modeling and thus transfers power to a technocratic elite (Grabow and Heskin 1973); and it disavows the validity of subjective knowledge (Goldberg 1986). Critics contend that it is impossible for EIA to simply achieve a 'comprehensive' understanding of the ecological and social setting for a particular development proposal, let alone predict ecosystemic or social responses with enough accuracy to select rationally the best of a series of development alternatives.

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[21] The use of the term 'planning theory' is problematic, but is used in this dissertation to refer to normative theories about planning procedure. Although some planning theorists use the word theory in its normative and predictive meanings simultaneously, this usage is "entirely inconsistent with normal usage of the term in the social sciences" (Breheny 1983, 108), and there is more support within the discipline for the position that procedural planning theory is the more 'appropriate' concern of planning theorists (Bolan 1980, Davidoff and Reiner 1973 in Briassoulis 1989; Faludi 1973b, Friedmann 1987, Hightower 1969). Hudson (1979, 393) summarised the bulk of planning theory literature as being "principally concerned with procedural techniques", and it is this usage that is adopted here.

Despite these criticisms, rational planning remains a persistent organising framework for many forms of planning, including environmental impact assessment. Hudson (1979) has argued that rational planning's power and appeal lies in its conceptual simplicity and its similarity to most individuals' decision-making patterns. As well, some theorists have speculated that rational planning is intuitively appealing to minds educated under the prevailing reductionist, rationalistic mode of 'scientific' inquiry. Taylor (1980) noted that reductionist science has served as a powerful metaphor for the organisation of management structures dealing with the overall problem of societal form and emerging problems related to societal transformations. With science proving so successful in manipulating the physical world, he concluded that it was not surprising that society turned heavily toward scientific problem-solving and planning approaches for guidance in dealing with emerging problems.

In summary, the technical model of EIA has been revealed through a seven-part classification of criticisms that have emerged in the literature over the last 25 years. In response to the criticisms discussed in the Section 2.6, planning theorists and practitioners have advanced ideas about the way in which EIA should be reconceptualised before being transferred as a planning process for use in developing countries. Continuing with the seven-part classification advanced previously, these ideas are traced in the following section.

2.7 Planning Model of Environmental Impact Assessment

> EIA can be characterized as a political/administrative process. It is a political process inasmuch as it guides and legitimates decision-making and involves the allocation of power. As such, it can either perpetuate and reinforce inequities in the political process or it can facilitate shared decision-making

> with interested and affected publics - especially those publics traditionally underrepresented in the political process (Lawrence 1994a, 16).

2.7.1 Model Characteristics

As with the technical model, the planning model of EIA has been referred to in the literature under a variety of labels which inform an initial description of its characteristics. It has been referred to as: the "radical" approach (Rees 1979, Rees 1985); the "process" (d'Amore 1981) or "planning process" approach (Boothroyd and Rees 1984); the "joint venture/co-operative" approach (Connor 1981); the "political" approach (Cunningham 1984, Craig 1990 in Gagnon *et. al.* 1993); the "participatory" (Jiggins 1995) or "participative" (Roberts 1995) approach, and; the "community" approach to EIA (Roberts 1995). In brief, the planning model structures EIA as a participatory and value-laden planning process linked to larger political planning and decision-making processes, embracing uncertainty rather than prediction as an organising feature. As well, the planning model incorporates multiple ways of knowing about environmental and social impacts, and takes theoretical guidance from a variety of planning theories in existence.

2.7.2 The Benefits of the Planning Model

The planning model of EIA emerged largely as a response to criticisms voiced about the technical model of EIA. Thus, the planning model is seen in the literature as providing the general benefits of using any form of environmental impact assessment (e.g. increasing resource use efficiency, social learning) while also providing additional benefits not provided by the technical model.

Where the technical model posits **the role of EIA in planning processes** to be that of a stand-alone, reactive technical study focusing mainly on biophysical impacts, the planning model is seen as integrating better with existing planning processes, and offering a broader and more proactive framework with which to critically assess long-term cumulative effects of development. Crucially, it is also seen as providing a structured framework by which to encourage and manage public involvement in all aspects of assessment and planning. The main benefits flowing from this, according to the model's proponents, are that the broader trend of development can be critically assessed by members of society, rather than just individual projects: broader societal input is a means by which to negotiate decision-making about environmental and social systems (Jiggins 1995). This broadening of input can be seen, in and of itself, as a powerful equity benefit for developing countries.

Accordingly, the **scale of assessment** activities under the planning model is not restricted to the direct impact of projects, and in fact flows upstream through programme, plan, region and policy levels where more generic impacts can be identified and assessed (Boothroyd 1995)[22]. Although individual projects would still be assessed for site-specific impacts, the planning model, in assessing the policies and programmes framing projects, would provide much of the background information germane to project-level assessment. Project-level assessment would thus become a more rapid and simple endeavour, saving valuable and scarce resources in both developed and developing countries. The planning model would preclude a great deal of assessment activity at the project level simply because the most-damaging policies, plans and programmes would be eliminated before associated

[22] Upstreaming refers to the introduction of environmental considerations into the very early stages of policy and programme planning so they contribute to the overall direction of programmes, plans and projects (after Graybill 1985).

projects could be conceived[23]. As well, by focusing on levels higher than the individual project, the planning model allows for a greater understanding of the cumulative effects of development activities.

Another major benefit of the planning model identified in the literature flows from its treatment of **knowledge certainty** in the EIA process. Unlike the technical model, knowledge about stress response in complex ecological and social systems is assumed to be uncertain at best and potentially unknowable with any degree of long-term accuracy. The planning model has benefited greatly from ecological research which emerged concurrent with US-NEPA style EIA approaches, and has incorporated the results of this research into its procedural framework. Uncertainty, chaotic behaviours and surprise are assumed to be present in every attempt to predict systemic responses to development, regardless of the degree of quantifiable scientific studies carried out. Thus, the planning model of impact assessment, and any decision made as a result of impact assessment, is understood to be grounded in inaccurate and incomplete knowledge. This can only be seen as a benefit for development planning activities and decision-making, which, under the technical model, assumed a level of understanding which simply did not exist and led to decisions based on a false sense of certainty. Stated differently, the model of reality used in the technical model was at odds with reality, and the planning model has partially redressed this by embracing uncertainty as an organising concept. For developing countries, the benefit may be that damaging courses of development will not be embarked upon lightly on the basis of one-time

[23] This stems from the appreciation that development projects are conceived out of a web of supportive policies, plans and programmes. Most development projects would never reach the proposal stage without such support and thus, the planning model allows a more proactive approach to environmentally- and socially-sensitive development planning, and for efficient use of assessment resources.

predictions which will inevitably be proven inaccurate. More emphasis and resources can thus be devoted to initial designs, and monitoring and adjusting development activities rather than attempting costly exercises in scientific prediction.

The **epistemology underlying** the planning model, characterised as allowing for "multiple epistemologies" (after Redclift 1992, 35) or 'multiple ways of knowing' about complex phenomena, is beneficial in that it addresses the impossibility of science to fully understand and predict complex system behaviours. The planning model recognises that "different ways of understanding complex systems yield different insights" (Norgaard 1994, 73) which when combined lead to a fuller understanding of these systems. By allowing for multiple ways of knowing about systems, the planning model provides for a beneficial 'next step' whenever science is in doubt, and provides a knowledge base which can be compared, contrasted or added to that of science.

In particular, the planning model validates the use of indigenous or traditional ecological knowledge (TEK) within EIA[24]. This is beneficial, in part, because a combination of 'scientific' and 'indigenous' data may yield a better overall data set and enable better communication in the planning process (King 1983, Johannes 1993, Kumar *et. al.* 1993).

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[24] TEK is "generated, recorded, and transmitted differently than Western scientific knowledge" (Johnson 1992, 6) making it problematic for use within the technical model. Johnson defined TEK as "a body of knowledge built up by a group of people through generations of living in close contact with nature ...(which includes) a system of classification, a set of empirical observations about the local environment, and a system of self-management that governs resource use" (Johnson 1992, 4).

TEK differs from Western science in that generally it: is transmitted orally; is learned through observation and experience; ascribes a life force to so-called inanimate objects; views human life on par with non-human and inanimate entities; is inherently holistic; emphasises emotional involvement and subjective understanding; depends mainly on qualitative data; is based on data generated by resource users rather than specialised researchers; is based on a long time series of data for a small locality; is used within a decision-making environment which is non-hierarchical and non-compartmentalised, and; generates explanation through collective experience and perpetual revision in the face of new information. With its roots in past experience and present-day learning, TEK is both cumulative and dynamic, building upon the experience of earlier generations and adapting to the new technological and socioeconomic changes of the present

Emery and Patton (1997, 13) saw the complementary use of TEK as a means of filling in gaps in scientific ecological knowledge of the region potentially affected by a development proposal:

> Given the relatively ineffective long-term scientific methodology associated with environmental impact assessments – primarily lack of long-term baseline data, little knowledge of the subtle effects from the project's actions, inability to predict long-term effects accurately, difficulty in defining or even discovering indirect effects, and an inability to determine (ecological) bottleneck occurrences of critically important factors – traditional knowledge bases are amply able to help fill these gaps (Emery and Patton 1997).

Perhaps most importantly though, developing countries generally have a high proportion of individuals whose epistemological base might be termed 'traditional'. Thus, the planning model, in allowing for and encouraging the use of knowledge generated under non-scientific epistemologies, has the additional and important benefit of fostering equity through broader public involvement in the EIA process. This occurs when individuals, whose knowledge and beliefs have not been shaped by Western scientific precepts, are nonetheless encouraged to contribute their knowledge, information and values to the EIA process[25].

When compared to EIA studies done under the technical model, the **timing and length of assessment** activities under the planning model can be described most simply as 'beginning earlier' (in order to assist in the design and selection of more appropriate development proposals) and 'ending later' (in order to monitor and adapt developments to

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(Johnson 1992) and is a coherent paradigm separate from that of science (Showers and Malahlena 1992).

[25] TEK researchers have noted that it is inappropriate to use TEK "in isolation from the social and political structure in which it is embedded" (Johannes 1993, 35). Thus, the use of TEK for impact assessment contains the caveat that TEK 'inputs' be accompanied by attempts to understand and document the context of this knowledge. For example, Johannes (1993) described cultures in which human activities were understood to cause degradation, others in which this understanding was weak or non-existent, and still others in which the understanding changed drastically between generations.

emerging knowledge about impacts). Graybill (1985) observed that the early design stage was a critical milestone in environmental inputs to development proposals:

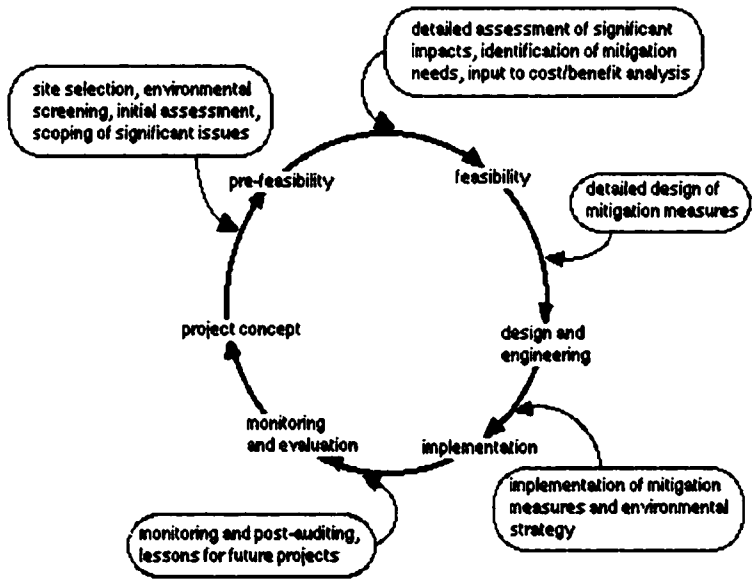
> As a (proposal) progresses from the feasibility stage through the construction stage, decisions, disbursements, interdependencies, financial obligations, personal commitments, momentum to construct and physical progress accumulate to form an ever increasing obstacle to change or revision...By the time the early design stage is passed, most of the major...dimensions have been frozen. By then there is virtually no such thing as a small change... (Graybill 1985, 349).

Thus, the planning model provides two important benefits: by 'beginning earlier' the model allows for environmental and social considerations to be built into the design of development policies, programmes and projects, and; by 'ending later', allows for emerging knowledge about unanticipated impacts to contribute to the redesign, phasing, scaling down or modification of the proposed development. Overall, the longer timeframe of assessment activities can reduce the imprecision inherent in attempts to characterise continually changing ecological and social systems through 'one-shot' assessments. EIA under the planning model can thus contribute to the design of less damaging proposals, can more accurately portray ecological and social systems, and can assist in proposal redesign in the face of emergent social and environmental responses and limits. Figure 2.1 represents the UNEP's conception of how EIA, like that envisaged under a planning model, can contribute at many stages of a project's lifecycle.

The planning model views early and continuous **public involvement** in planning and decision-making as the most effective means of ensuring that societal values, attitudes and knowledge are incorporated into development decision-making. The planning model transcends the technical model's tendency to view public involvement as a means of

soliciting 'data', or to educate and 'sell' the proposed development to an uneducated or skeptical public. Public involvement under the planning model assumes that local people in developing countries have the knowledge and expertise to evaluate proposed changes to their lives (Tester 1989). Under the planning model, public involvement is conducted in a manner that Roberts (1995, 224) referred to as the "shared decision-making, delegated authority and self-determination" approaches to public involvement. This approach confers the benefit that some measure of power is relocated out of the hands of technocratic planners and analysts, and back to potentially affected communities (Tester 1989), particularly those traditionally underrepresented in the political decision-making process (Lawrence 1994a, 16). This is an

Figure 2.1: UNEP EIA Cycle



(Source: UNEP 1988)

important benefit for developing countries since it broadens the societal and knowledge base upon which socially and environmentally significant decisions are made. Additionally, public involvement, when practiced consistently over longer time periods, provides an "informal but

effective early warning system" for the detection of unintended and unpredictable consequences of development (Faludi 1973b, 281).

Public involvement under the planning model involves two changes in perspective which provide overall benefits to the integration of EIA with existing political planning processes. The first shift involves viewing the impact assessor not as a source of technical expertise, but rather, as either a 'receiver' of communication from the public (King 1983), or a "facilitator" of communication among the public, proponent and government actors (Jiggins 1995, 61). The second shift involves moving away from a view of expert-driven technical planning and decision-making, to a view that the public can and should have some level of direct decision-making capacity. As well, by soliciting public values and attitudes, rather than just scientific and technical information, the planning model provides a means by which planning can be conducted in the face of uncertainty. Furthermore, there are many benefits to involving intended development beneficiaries in the design, decision-making and operation of development programmes and projects (Egger and Majeres 1992, Rahnema 1992, Vivian 1992, Fellizar 1994, Roddan 1994, Chambers and Jiggins 1987 in Jiggins 1995), particularly in developing countries[26].

The **planning theory basis** for the model is a mixture of rational planning, mixed scanning, transactive planning and advocacy planning. 'Mixed scanning' refers to a form of planning which attempts to guide short-term or small-scale developments (e.g. a single

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[26] These benefits include: stimulating community self-esteem and empowerment, designing less environmentally and socially damaging development interventions, providing and using detailed local knowledge within the development process, developing a sense of ownership and stewardship toward the development and fostering a concomitant success and persistence of the development, and stimulating the two-way exchange of knowledge between the community and planning

project) toward longer term and larger-scale goals (e.g. sustainability). Stated another way, mixed scanning suggests that long-term development planning goals can provide a framework within which individual impact assessments would be gauged and tested for approval. This also might involve efforts to initiate or redesign project-level proposals to provide better support for longer term national or international sustainability goals. Transactive planning theory provides guidance in suggesting that EIA practice should involve 'face-to-face' contact with the people potentially affected by proposed developments (Hudson 1979), and that EIA practitioners, as well as 'potentially-affected people', can learn through such contact. Advocacy planning theory suggests that, through EIA processes, disenfranchised groups (e.g. racial minorities, the poor, community groups and rural-dwellers) should be assisted by planners in gaining access to the decision- and plan-making processes of governments and business, and thus, participating in the earliest and highest levels of EIA decision-making. Planners involved in the EIA process would thus take on an "explicit role...as a facilitator of social change through the support by the planner of social groups whose interests had previously been excluded from the planning process" (Cenzatti in Friedmann 1987, 440).

2.7.3 Resistance to the Planning Model

Although the planning model began to emerge as a response to criticisms of the technical model, it is not yet recognised widely as a cohesive model. Thus, few criticisms have been leveled directly at the planning model. What has been voiced openly are mainly conceptual or theoretical discussions of the difficulty of moving away from the technical

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bureaucrats.

model. Most commonly, a form of passive resistance to change is seen within the EIA community and the technical model persists in spite of growing calls for change.

The planning model's suggestion that assessment activities should move beyond the project level to plan, programme and policy levels has been resisted on at least three points, each of which relates to the more general nature of proposals at non-project levels and the difficulty this heightened generality causes for the prediction of impacts. EIA is seen as more difficult when assessment is to be conducted: 1) without reference to a particular location; 2) on highly dynamic non-project 'proposals', and; 3) on 'proposals' which may be ill-defined, hidden from public knowledge, or never explicitly defined as a proposal. However, it is suggested here that these problems are not specific to non-project assessment: examples abound where EIA is conducted on a project using the technical model of EIA, yet faces difficulties because the proposed 'project' is ill-defined (Rees 1985), not tied to a particular location, or changes drastically during, or subsequent to, assessment activities[27]. Benson (1982) saw such criticisms of higher-order assessment as a fundamental question of whether EIA is carried out *on* a plan or policy (as per the technical model), or as *part of* a planning and policy development process (as per the planning model). Thus, much of the criticism surrounding EIA at non-project levels stems from assumptions about the appropriate role of EIA in the planning process, and a deeply held faith in the ability of the technical model to accurately reveal the impacts of proposed project-level developments.

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[27]Rees (1985, 7), in referring to EIA studies conducted on an ill-defined Beaufort Sea project, simultaneously criticised both the project proponent and the EARP (EIA) process when he referred to the "conceptual problem (facing participants in the process) of advancing predictions in the absence of a definitive project proposal". EIA under the technical model was expected to deliver a scientifically credible and exhaustive description of the project's impacts, even though no one involved

The planning model has been criticised for its support of two linked positions: that planning can (and indeed, must) be based on knowledge uncertainty, and that knowledge useful in the EIA process can be derived from epistemological bases other than those of science (Canter 1977, Alcances et. al. 1983, Beanlands and Duinker 1983, Biswas and Geping 1987, Carpenter and Maragos 1989, ADB 1991, Carpenter 1995, Lee *et. al.* 1995). Planning which openly acknowledges that uncertainty is the basis upon which decisions are made contrasts sharply with accepted planning approaches used by individuals, corporations, and government planning bureaucracies, and which are based on a presumption of predictive ability based on scientific knowledge. Criticisms have thus emerged from an array of actors in the EIA process, from planners, to politicians to environmental professionals, all of whom share the tendency to trust only 'objectively verifiable' knowledge in decision-making. To planners steeped in rational/objective approaches, the planning model's embrace of uncertainty and knowledge pluralism amounts to a refutation of 'rational' decision making based on 'objective' science, and such alternative forms of rationality are generally discounted in societal decision making (Rees 1995). Politicians are particularly loathe to accept uncertainty in the decision-making milieu since this leaves them vulnerable to criticism from political opponents or a public demanding accountability (Hammond *et. al.* 1983). Environmental professionals involved in the preparation of EIA studies have predominantly been trained under a positivistic science tradition and are often the most staunch opponents of suggestions that their work should be based on uncertainty and values rather than predictive science. Lee *et. al.* (1995, 93) were explicit in this regard in their suggestion that integrity within EIA could only be preserved by the "screening out of extra-scientific pressures" such as "subjective judgments involving values, feelings, beliefs and

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in the process knew accurately what proposal was being advanced.

prejudices". Open criticism of calls for the inclusion of traditional knowledge in EIA is not generally found in the EIA literature, although there is a long history of literature which ignores or trivialises the potential role of traditional knowledge in the EIA process. This amounts to thinly veiled doubts about the veracity and legitimacy of epistemologies other than that of reductionist science[28].

The greatest resistance to the planning model has come from its support for 'public participation' (shared decision-making, delegation of authority, or self determination) rather than 'public consultation' approaches to public involvement. Although most EIA studies conducted around the world attempt to involve the public in some way, limited forms of public 'consultation' (which views the public as a group to be persuaded, educated or used as a source of information) continue to be the norm. Resistance to public 'participation' approaches stems mainly from the understanding that such approaches involve a significant devolution of power, to the point where the overall need for the development may be questioned, and decisions directly affecting the scale, location and overall feasibility of the proposal may be decided by the public rather than the proponent, politician or planning bureaucracy. The decision-making model which currently prevails in many countries, in which 'rational' decisions are made by technical elites on the behalf of the public, is thus threatened by the public participation approaches advocated by the planning model. This is resisted or seen as problematic by those who do not trust the public's abilities.

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[28] See for example: Canter 1977, Alcances et. al. 1983, Beanlands and Duinker 1983, Biswas and Geping 1987, Carpenter and Maragos 1989. None of these sources indicate a significant role for or benefit from traditional knowledge in EIA processes.

The planning model is not a widely understood or tightly defined model available for easy use by EIA practitioners. The model remains largely a body of criticism and suggested reforms which are borrowed from selectively. It is perhaps most accurate to state that the technical model continues to be the standard by which most EIA practices, regulations and procedures are guided, and the planning model has exerted selective influence over the conceptualisation and practice of EIA. This influence is traced in the following section.

2.7.4 Emerging Influence of the Planning Model

2.7.4.1 Changing the Scale of Assessment

The planning model has been influential in introducing environmental impact assessment activities that go beyond the project-specific focus of the technical model. The environmental impact assessment of policies, plans or programmes has coalesced into Strategic Environmental Assessment (SEA) (Wood and Dejeddour 1992, Boothroyd 1995) and the assessment of impacts over areas larger than a single project and comprising many discrete development activities has resulted in both 'Regional Environmental Assessment (REA)' and 'Cumulative Effects Assessment (CEA)'.

Strategic environmental assessment (SEA) is an evolving approach that attempts to assess the environmental impacts of decisions made at levels of strategic decisions (Partidario 1996)[29]. More specifically, it has been defined as the environmental impact

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[29] Strategic environmental assessment is also referred to in the literature as "environmental policy appraisal" (Wathern et. al. 1988, 103), "policy EA" and "policy impact assessment" (Partidario 1996), "environmental policy review" (O'Riordan and Sewell 1981), "environmental policy analysis" (White and Hamilton 1983, 39) and "programmatic environmental impact assessment" (Therivel 1993). However, Boothroyd (1995) distinguished between "policy analysis and evaluation" (which determines whether stated objectives and goals were met by the policy) and "policy impact assessment" (which determines whether there were outcomes additional to those desired by the implementation of the policy). Combining these two traditions, he suggested, was the term "policy assessment" which, when applied to environmental and social systems,

assessment process used for policies, plans and programmes which are approved earlier than the authorisation of individual projects (Lee and Walsh 1992). The word strategic refers to "its relative positioning in the pyramid of decisions from policy visions to programs of more concrete activities" (Partidario 1996, 33). SEA represents a significant departure from the project-focus of the technical model, and is recognised as potentially pre-empting environmental impacts before the project stage. It is also recognised as providing a more proactive approach to the integration of environmental considerations in development planning (Lee and Walsh 1992, Rookwood 1993). In contrast to the technical model of EIA, a number of impact assessment methods are generally used within the same study to determine primary impacts, and secondary impacts are routinely addressed. Proponents of SEA see it functioning ideally within a multi-tiered environmental assessment framework whereby first broad policies, then regional and sub-regional plans and programmes are assessed in a stepwise fashion before relatively brief individual project EIAs are carried out (van Pelt 1993, Sadler 1994). However, for most planning regimes, the use of SEA within such a tiered framework is still an ideal of the future.

SEA remains much less used in governmental and aid agency decision-making than project-specific EIA (Lee and Walsh 1992, Therivel *et. al.* 1992, Sadler 1994) and, although it is a step toward planning model ideals, it nonetheless contains problematic issues reminiscent of the technical model's lack of integration with planning processes. Although SEA has promise for the review of government policy in its broadest sense, Therivel's (1993) review of hundreds of SEAs conducted in the US, the Netherlands, Germany and the United Kingdom revealed that SEAs had been applied exclusively to plans and programmes rather

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was the only tradition which could assess the totality of changes brought on by implementation of the policy.

than policies. Although SEA represents a viable outgrowth of the planning model of EIA, it remains underused for the assessment of policy and usually is not tied legislatively to decisions made about individual projects. Furthermore, critics have suggested that SEA continues to be viewed as the formal assessment of completed policy, plan or programme proposals, entailing the familiar risk that proponents have already committed themselves to all but minor mitigations to the proposal (Boothroyd 1995). Thus, there is a need for the assessment of policies, programmes or plans: 1) which are never identified formally as 'proposals' (e.g., implicit or existing policies); 2) during the design stage, and; 3) which includes the assessment of the objectives, higher goals and externalities surrounding policies (Boothroyd 1995, 105). Clearly, SEA has not broken completely from the technical model's procedural bases and biases.

Regional environmental assessment (REA)[30] is an approach to impact assessment which eschews the single project as the base of assessment in favor of assessing multiple actions within one ecosystem or geographic region. The World Bank has defined REA as assessment conducted "...when a number of development activities are planned or proposed for a relatively localised geographic area, such as several projects in one watershed" (World Bank 1991a, 12). REA purportedly provides an assessment framework capable of providing an integrated perspective, defining cumulative impacts of proposed multiple developments in a region; identifying cross-media or transboundary impacts, and establishing regional priorities in environmental management and planning (James et. al 1983). Although REA has

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[30] Other related approaches have been referred to as: 'regional assessment' (Bidwell 1992); 'areawide environmental assessment' (US-HUD 1981, Sadler 1986); 'regional level EIA' (Gamman and McCreary 1988); 'ecosystem planning' (Rees and Davis 1978); 'environmental zoning' (Lee 1985); 'ecological assessment for regional development' (Cooper and Zedler 1980); 'regional carrying capacity' (Rees 1988; Rees 1990); 'integrated regional assessment' (James et. al. 1983), and;

usually been conceived of as the assessment of multiple *projects* in a particular region, it has a much greater potential to become the overall organising framework for the assessment of all development *proposals* in a particular region (Bidwell 1992), be they projects, plans, programmes or policies.

Ideally, there should be strong links between regional environmental assessment and carrying capacity analyses. As Rees (1988 and 1990) has pointed out, the assessment of environmental impacts in a regional sense is of no significance unless these are in relation to permissible limits of ecological or social impact, which are in turn linked to physical limits to development in that region. Regional carrying capacities need not be expressed in absolute physical terms alone (Rees 1988), but in a multitude of terms and management options that are morally, ethically and physically relevant to the humans occupying that region, and which define limits to the maximum level of development or human activities in the region[31]. To date however, carrying capacity approaches are not commonly carried out as part of mainstream REA activities, and project-specific rather than regional assessments are still the norm.

Another emerging form of non-project EIA is cumulative effects assessment (CEA), which has evolved out of the recognition that important environmental decisions, or

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'integrated regional economic-cum-environmental development planning' (ADB 1992).

[31] A determination of regional carrying capacity typically begins with a consideration of regional resources and desired standard of living for the region's human population (since a 'standard of living' is tied to per capita resource consumption rates). From these two components can be determined the maximum number of individuals which can be supported by these resources at the desired level of development. This is complemented by an 'Ecological Footprint' approach to regional assessment. In the latter, the consumptive resource demands of individuals, populations, projects or even policies are calculated, and the area (marine or terrestrial) required to sustain the consumptive entity is then calculated. The ecological footprint represents a viable and promising means by which proposed developments can be assessed for their aggregate regional impact on natural capital and ecological sustainability (after Wackernagel and Rees 1996).

"cumulative environmental effects" (CEE)[32], are the result of numerous, apparently independent, small decisions largely outside of traditional environmental assessment, regulation and decision-making frameworks. W.E. Odum (1982, 728) referred to this process as "the tyranny of small decisions", tracing its roots to contemporary scientific management and political decision-making structures which have shown a reductionist bias toward concern for the parts rather than the whole. In Odum's view, one key to avoiding the problem of cumulative environmental effects was for planners and politicians to adopt a "large-scale perspective encompassing the effects of all their little decisions" (Odum 1982, 729). Interest in and research on CEA has developed over the last fifteen years with the recognition of the deficiencies inherent to project-specific EIA (Ross 1990 in Cocklin *et. al.* 1992a, Davies 1991) and the need to adopt a wider frame of reference. Research conducted by Sonntag *et. al.* (1987) led to a typology of cumulative environmental effects[33], and was a precursor to the first attempts to introduce these within existing EIA frameworks. At the heart of concern for cumulative effects is concern for the whole, whether a particular ecosystem, region, watershed, or social system, and a geographic area typically larger than that considered under the technical model. As well, there is a recognition that cumulative effects are in fact the result of numerous supportive policies, regulations and managerial decisions (Odum 1982), all of which should be brought within the purview of EIA.

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[32] Sonntag et. al. (1987, 3) defined these as:

- Impacts on the natural or social environments [that] take place so frequently in time or densely in space that the effects of individual 'insults' cannot be assimilated, and/or;
- The impacts of one activity combining with those of another in a synergistic manner.

[33] The typology included: time and space crowding; compounding effects; time lags; extended boundaries; triggers and thresholds, and; indirect and patchiness effects (Sonntag et. al. 1987).

One way in which CEA has been implemented is as an information-generating adjunct to project-level analyses (Spaling and Smit 1993, Lawrence 1994b). At the project level, CEA has attempted to scientifically trace project impacts in combination with all other synergistic impacts. However, this approach is not promising as it quickly runs into the practical and theoretical difficulties of predicting the synergism of the proposal with not only existing projects, but also those in the earliest stages of formulation or those not yet formulated but with a *potential* to be put forth as a proposal (Kennett and Perl 1995, 349). As well, there are typically a myriad of development activities judged 'too small' to trigger formal EIA and CEA studies, and thus very little is known about such activities, yet these activities still act synergistically with the impacts of large projects. Thus, reinforcing Odum's (1982, 278) dictum that "regional (environmental) problems are highly vulnerable to small decision effects", many authors have suggested that the most useful level at which to implement CEA is at the regional or ecosystem level rather than the individual project level (Rees and Davis 1978, Dickert and Tuttle 1985, CEARC 1988, Harris 1988, Rees 1988, Davies 1991, Arensberg 1992, Cocklin *et. al.* 1992a). This coincides directly with the planning model's lack of emphasis on site-specific assessment. It has also been suggested that, as the scale of human activity has reached levels which transform global ecological processes, an appropriate scale at which some EIA studies should be conducted should also be global through a consideration of global natural capital (Goodland and Daly 1995, Rees 1995).

The use of the SEA, REA and CEA alternatives to project-specific EIA, while increasing, is still nowhere near as common as is the assessment of specific projects (Clark

and Herington 1988, Treweek 1995). As an example, although cumulative effects assessment has been applied sporadically (see Herson and Bogdan 1991; Davies 1991), it has not become a standard feature of EIA as it is practiced anywhere (Cocklin *et. al.* 1992b). Thus, although CEA is recognised as potentially forging "a transition from project-specific environmental management to a more comprehensive holistic approach to the environment" (CEARC 1988, 1), it remains largely a guiding concept that has not yet been transformed into a practical operational framework. Similar sentiments can be applied to strategic environmental assessment and regional environmental assessment, particularly in developing countries where, although "...considerable experience has been developed on the application of EIA at the project level, commensurate progress at policy and programme levels simply has not been made" (Biswas 1993, 4).

2.7.4.2 Uncertainty as an Organising Framework for EIA

The planning model of EIA has benefited from and incorporated the results of complex systems research and theories, and research on the outcomes of development interventions. This research has demonstrated that systemic responses to perturbation are difficult or impossible to predict due to the tendency of such systems to behave in unpredictable, surprising, chaotic and indeterminant manners, and that unanticipated outcomes of development projects and programmes are ubiquitous (Black 1991). In the planning model, uncertainty is understood to be present in any attempt to assess the environmental impacts of proposed developments. Although prediction is still an aspect of the planning model, much less trust is placed upon the accuracy and comprehensiveness of

that prediction[34]. Instead, unexpected outcomes are expected, monitoring is encouraged throughout the lifetime of the development in order to reveal both the accuracy of predictions and unexpected system responses, and attempts are made to adapt the development to any unexpected system responses. Complex systems theory has undermined the technical model's presumption that ecosystemic management can be effected by humans, and the planning model has responded with a more cautious approach to prediction and development.

Returning to the contention that CEA embodies planning model ideals, at least one author has judged cumulative effects assessment to be "...a firm rebuttal of the reductionist, mechanistic approaches to environmental knowledge and problem solving" (Cocklin 1993, 12). CEA is generally understood to involve a higher degree of monitoring and a recognition of limits to predictive capacities than does EIA under the technical model. As well, it provides a powerful conceptual framework which regional planners and managers can use to justify the adaptation and modification of ongoing development in the face of emerging systems behaviours. Thus, the expansion in use of CEA has led to a corresponding acknowledgement of uncertainty in EIA.

Another form of EIA that evolved out of the ideals of the planning model is 'adaptive environmental assessment and management' (AEAM). AEAM is an approach to impact assessment that combines scientific prediction (through the use of computer simulation modeling) with human intuition, and an understanding that accurate prediction is impossible.

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[34] By definition, environmental impact assessment must contain some component of prediction if it is to be useful in reducing the negative impacts of development proposals. What differs in the planning model is the level of certainty that such predictions are accurate and cover the full range of eventual impacts, and the timing of predictive efforts. The planning model of EIA views the effort to predict impacts as imprecise, often wrong, and lacking in comprehensiveness, and builds

It is thus understood that development activities that have been allowed to proceed under AEAM must be continuously monitored, adjusted and adapted to systemic responses in a process of adaptive learning (Briassoulis 1989). The approach emerged out of the recognition that the dominant theme in most environmental issues is uncertainty and surprise (Jones and Grieg 1985), and thus, there is a need for "prepared responsiveness" (Holling 1978 in Briassoulis 1989, 386). AEAM revolves around a series of workshops, the primary objectives of which are: to develop a concensus-based computer simulation model of the (eco)system being assessed; to integrate various forms of knowledge about the system and the proposed development into a description allowing impact prediction and evaluation of alternatives, and; to review, evaluate and revise the environmental management decision based on phased implementation, pilot projects, monitoring and redesign (Jones and Grieg 1985).

Out of AEAM can be discerned a blend of the technical and planning models of EIA. The technical model is reflected in AEAM's attempts to simplify, model, isolate key variables, quantify and predict. The planning model is reflected in AEAM's dependence on intuitive knowledge, on skepticism about the accuracy of the model's predictive capacities, and on the need to continually monitor and redefine management approaches based on new information. The AEAM approach admits that ecosystemic behaviours are fraught with surprise and uncertainty, yet counsels that developments and management interventions can produce fewer negative impacts if implemented cautiously, and are monitored and adapted to the emerging responses of the surrounding systems. AEAM reflects the planning model in acknowledging that fundamental data and theoretical understanding often do not exist when

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upon this by counseling that developments should be implemented cautiously and in phases whenever possible to allow for continuous monitoring, learning and adaptation in the face of emerging knowledge.

EIA studies are first initiated. Holling (1978), one of the main creators and proponents of AEAM, clearly saw the approach as differing from the technical model when he stated that "...if assessment continues into the future, then prediction loses its status as a goal, and (impact) assessment merges into environmental management" (Holling 1978, 133).

2.7.4.3 The Growing Acceptance of Multiple Epistemologies in EIA

> Economic, environmental and social goals are value-laden. Therefore, local values, as well as local knowledge and ideas, need to be integrated with scientific analyses in strategic decisions. Multiple perspectives should be sought (Carew-Reid *et. al.* 1994, 53).

The planning model has been influential in legitimising non-scientific knowledge and the inclusion of values in EIA processes, particularly those emerging from so-called 'traditional societies'. Traditional ecological knowledge (TEK) has been described as a knowledge base developed over "a millennia of observation, trial and error", and resulting in activities which are in "intimate adaptation to the environment" and in "management practices...more specialised and sophisticated than many resource scientists are prepared to credit" (Sadler and Boothroyd 1994, 2). Burrows *et. al.* (1991, 269) referred to the "instinctive holistic view" of traditional societies, a view which forms the basis of much of TEK and which could provide a counter-balance to the reductionist tendencies of scientific knowledge. Thus, the use of a multiple epistemological perspective has been advocated for use in EIA in order to balance its tendency toward specialisation, improve communication among diverse social groups, and enhance the abilities of EIA to predict and monitor impacts (Dene Cultural Institute 1994).

One of the first and most successful attempts to incorporate a multiple epistemological perspective in EIA was the Mackenzie Valley Pipeline Inquiry or 'Berger Inquiry'. In addition to scientific studies prepared by over three hundred expert witnesses, community hearings were held in northern native communities in order to allow native peoples to tell the Inquiry "...in their own language and in their own way - what their lives and their experience led them to believe the impact of a pipeline and an energy corridor would be" (Berger 1984, 3). The traditional knowledge and values that emerged from community hearings, far more than the 'value-free' scientific evidence submitted as part of the EIA, led to the conclusion that the proposed development would result in "sudden, massive and overwhelming" social costs. These costs, it was concluded, could only be mitigated by at least ten years of prior effort to strengthen native societies and economies, particularly through the settling of native land claims (Berger 1984, 4). Berger identified the proposed pace of development activities as perhaps the most crucial determiner of social impacts. Mirroring the approach suggested under a planning model of EIA, he urged that development proceed in a cautious, incremental manner which would assist in the monitoring and adaptation of development, and to the incremental strengthening of local self-determination. A ten year moratorium on pipeline development was recommended by the inquiry in order to implement the interim measures needed to buffer northern communities from the pipeline's impact[35].

[35] The Mackenzie Valley Pipeline did not proceed after the ten year moratorium suggested by Berger expired, nor were the suggested interim measures implemented.

2.7.5 Summary

In summary, the technical and planning models of EIA represent very different normative conceptions of impact assessment (see Table 1.1). This has strong implications upon what is considered to be the 'appropriate' subject matter of EIA, the processes used to carry out the assessment process, and the individuals deemed important enough to involve in impact assessment. The following section traces existing literature on EIA capacity-building in developing countries, and describes the few research efforts which have examined the links between models of EIA emerging in developing countries and international aid agencies programming.

2.8 Empirical Research on EIA Capacity-Building in Developing Countries

> "All international organizations promote institutional strengthening, but no one quite knows how to do it" (Horberry 1985, 219)

Capacity-building is a concept that has emerged as an extremely popular focus of international aid agency work in the 1990s, perhaps second only to sustainable development as a stated goal of development aid. As a development concept, it received its greatest boost in popularity following the 1992 UN Rio conference and the subsequent release of the Agenda 21 report. Capacity-building is defined in Agenda 21 (UNCED 1992, 37.1) as the process of strengthening a country's "human, scientific, technological, organizational, institutional and resource capabilities", particularly as this relates to "crucial questions related to policy choices and modes of implementation among development options, based on an understanding of environmental potentials and limits".

Expressed mainly through international aid agency programmes, capacity-building is supported vigorously by development aid officials because it is seen as a means by which aid programming can help developing countries to help themselves long after funds have been spent. Thus, capacity-building is seen as one way to provide 'leverage' to limited aid dollars. Capacity-building, when applied to an environmental planning theme, can involve a number of components: *Technology Transfer* (e.g. the provision of information technologies, computer software, or pollution prevention technologies); *Equipment* (e.g. the provision of computers, vehicles, monitoring equipment); *Research* (i.e. carried out by aid personnel or in partnership with locals); and most importantly, *Human Resource Development* (e.g. training and education); *Institutional Strengthening* (e.g. administrative restructuring); and *Regulatory and Policy Reforms* (e.g. assistance to governments to create or refine environmental or development planning laws, or assistance with governmental policy reforms).

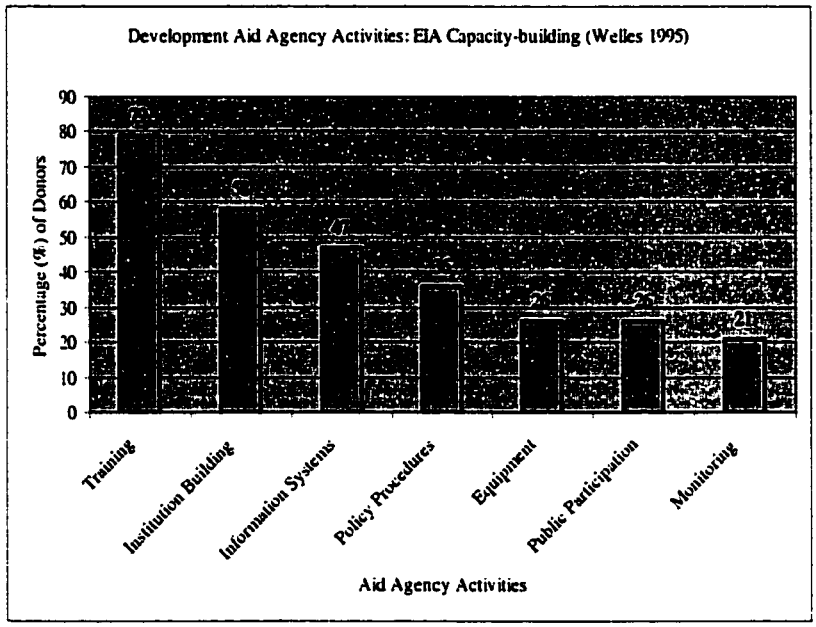
In academic research on EIA in developing countries, many authors have pointed to a generalised lack of capacity to implement EIA "as intended", and thus, EIA capacity-building programmes, both indigenous and development assistance-sponsored, have become an important component of EIA implementation in developing countries (Malik 1995, Robinson 1992, Simonis 1990, World Bank 1992). A capacity-building approach can address both governmental and non-governmental capacities, can lead to multi-dimensional and cross-sectoral improvements, and should emphasize the importance of understanding the historical context within which an activity such as capacity-building operates (Qualman and Bolger 1996). Precursors to capacity-building approaches usually emphasized technical,

technological, and sectoral assistance to the government sector, and did not stress meaningful public participation in programme design or as a programme goal. This often resulted in fairly narrow capacity gains within specific sectors, and limited self-sustaining capacity gains. By contrast, a capacity-building approach offers potential to achieve fundamental transformations, or in the research discussed here, to go beyond "EIA as intended" and more generally transform existing development planning processes to facilitate sustainable development.

In examining available research on environmental planning capacity-building in developing countries, it is clear that without the dual influence of international aid agency pressure and capacity-building programmes, "there would be much less support for environmental policies, including EIA, in developing countries" (Horberry 1985, 220). However, it is also clear that to date, there have been remarkably few examples of empirical research examining EIA capacity-building programmes and the models of EIA process promoted through such programmes. Welles (1995, 105) documented a joint USAID/WRI research project which was to have identified, as one of the project's mandates, "what other (development aid) donors are doing with respect to EIA capacity-building in Asia". She concluded that in carrying out EIA capacity-building, most of the surveyed development aid agencies emphasised EIA training and institution-building, while comparatively few emphasised public participation, provision of technical equipment, or the monitoring of compliance with the findings of EIA studies (see Figure 2.2). However, this aspect of Welles'

research was of a cursory nature[36], and in general, failed to address the model of EIA being promoted by development aid capacity-building programmes.

Figure 2.2: Survey Results-Aid Agency Capacity-Building (Welles 1995)



In 1996 the Environment Department of the World Bank carried out the second in a series of reviews of the Bank's experience with EIA, and included a small section detailing efforts at EIA capacity-building in developing countries. Most of the Bank's EIA capacity-building projects were at the proposal stage in 1996, thus, the document provided details on a total of only five "simple hands-on training workshops", each carried out over a three-day

[36] The bulk of the article did not address the issue of what development aid agencies actually did in their EIA capacity-building programmes: this research issue was addressed through a "quick survey of donors to determine what activities they

period (World Bank 1996, 19). No details on the form of EIA taught were mentioned, but presumably this would follow from the Bank's own three-volume 'EA Sourcebook' and would thus be geared heavily toward project-based EIA. The World Bank is explicit in suggesting that its own EIA procedures be used as a model in building environmental capacity in developing countries, promoting the concept of 'flexible harmonization'[37] of developing country EIA processes with those of the Bank. The World Bank has committed to the creation of an EIA training strategy for each of its six lending Regions. One of those regions, the Latin American and Caribbean, screens every major[38] Bank project for EIA capacity-building needs (World Bank 1996, 19). It should also be noted that the Bank also viewed *internal* (i.e. within the bank's own employee base) EIA capacity-building as an important goal for the post-1996 period. Overall, the report's discussion of EIA capacity-building in developing countries was weak, did not explicitly discuss the model of EIA to be promoted by the World Bank in developing countries, and did not report empirically results of any form of capacity-building other than simple EIA training courses.

In another example of published research on EIA capacity-building, Onorio and Morgan (1995) empirically evaluated an 11-nation EIA capacity-building programme by the South Pacific Regional Environment Programme (SPREP). Capacity-building efforts were limited to a series of 5-day training courses carried out in each country over the 1992-93 period. Although details of the course content were not given, the article's commentary on

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have underway to strengthen Asian country EIA capacities" (Welles 1995, 114). Results comprised a scant two paragraphs and one descriptive figure.

[37] Flexible harmonisation would see the Bank's own EIA process form a basis around which developing countries and countries-in-transition would base their own EIA processes, leading to "mutual savings in time and cost" (World Bank 1996, 137).

[38] A 'major' project is that which warrants a 'Category A' designation under The World Bank's internal EIA categorisation, meaning that an EIA is "normally required" due to the likelihood of "diverse and significant environmental impacts" (World

changes needed for *future* training courses gave some insight into training course content. Most importantly, the authors felt that future EIA capacity-building efforts would benefit from an attempt to adapt "western-conceived EIA practices to (South Pacific) cultures with different power structures, decision-making systems, and land ownership customs" (Onorio and Morgan 1995, 97). Other priorities for future EIA capacity-building were: 1) helping to better integrate EIA with national planning procedures, 2) assisting South Pacific communities to gain a better understanding of EIA and become involved in decision-making, and 3) adapting the public involvement component of EIA to reflect the local customs of South Pacific nations. Thus, SPREP's first experience with EIA capacity-building resulted in a series of changes to the EIA model being taught in the future, away from that of a technical model and closer to that of the planning model. However, other aspects central to a planning model of EIA (i.e. uncertainty, multiple knowledge bases) were not mentioned by the authors.

2.9 The need for EIA Capacity-Building Research

As the previous section has suggested, the existing 'state-of-the-art' in empirical research examining EIA capacity-building is underdeveloped, and requires much more attention. There is a general lack of research examining the level of influence the planning model of EIA has had in developing countries. The environmental impact assessment literature has indicated, at a conceptual/theoretical level, that the planning model of EIA shows promise for translating sustainable development goals into action in developing countries. However, efforts to translate the planning model's conceptual base into a coherent framework of EIA practice have been patchy, and largely reported in literature focusing on

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Bank 1991a, 4).

developed rather than *developing* countries. Thus, it is unclear whether this implies the planning model has not significantly influenced EIA practice in developing countries, or whether it has simply been underrepresented or underreported in the literature.

There has been virtually no attempt by researchers to conduct empirical research on EIA capacity-building *efforts* by development aid agencies. What does exist are many examples of empirical research examining capacity *deficiencies* in developing country EIA systems (see for example: Lim 1985, Leonen and Santiago 1993, Berger 1994, Mulders 1997) or, to a lesser extent, identifying capacity-building 'action plans' or lists of priorities for developing countries (see for example: Smith and Wansem 1994, Khadka and Shrestha 1996). To date however, the author has been unable to locate any example of empirical research which systematically and critically examines aid-funded capacity-building programmes and the EIA model promoted by such programmes.

Both research gaps may be partially explained by the relatively recent nature of both EIA and capacity-building as potential research subject: EIA is not yet thirty years old and capacity-building as a concept is arguably less than ten years old[39]. However, the relative lack of research examining the transfer from one country to another of planning techniques such as EIA is also an observation that can be applied more broadly to planning literature. As

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[39] EIA capacity-building as a development aid priority emerged most prominently after the 1992 UNCED Rio conference and associated Agenda 21 report. Chapter 37 of Agenda 21 is entitled "*National Mechanisms and International Cooperation for Capacity-Building in Developing Countries*". The chapter preamble introduces the concept as follows:

> The ability of a country to follow sustainable development paths is determined to a large extent by the capacity of its people and its institutions as well as by its ecological and geographical conditions. Specifically, capacity-building encompasses the country's human, scientific, technological, organizational, institutional and resource capabilities. A fundamental goal of capacity-building is to enhance the ability to evaluate and address the crucial questions related to policy choices and modes of implementation among development options, based on an understanding of environmental potentials and limits and of needs as perceived by the people of the country concerned.

Masser (1986, 165) observed, there is a general "lack of research on the transfer and diffusion of planning experience", including the transfer and export of planning experience between unequal developed and developing country partners. Thus, the research gap on EIA capacity-building in developing countries is but a subset of a more general gap in existing planning research and literature.

The following chapter traces the history of EIA as a component of Vietnam's development planning regulatory framework, describes the main actors in Vietnam's EIA process, and introduces the many EIA capacity-building programmes that have attempted to assist Vietnam in implementing EIA.

Chapter Three

CHAPTER THREE - THE EMERGENCE OF ENVIRONMENTAL IMPACT ASSESSMENT IN VIET NAM

> "When you look at environmental issues in Viet Nam, you have to realise that it's only within the last ten years that environment even got on the agenda" (Informant # 15 1994).

3.1 Development Planning and the Environmental Challenge in Viet Nam

Viet Nam has been characterised as the world's third largest 'transitional' country following China and Russia, and this transition has contained both economic and political elements. Following formal independence from the French in 1955, North Viet Nam adopted centralised planning in the form of the 'DRV model'[40]. During this period, the state officially owned all industry, and agriculture was based on a system of collectives (Elliott 1992, Irvin 1995). Although most development planning decisions were made by the central government, many state enterprises were managed by provincial or local authorities. Thus, central planning in Viet Nam has also included significant decentralised operational decision-making (Irvin 1995). Following the 1975 reunification of North and South Viet Nam, the Communist Party attempted to extend the DRV model to the south, yet throughout the 1955-1980 period, a sizable informal sector economy co-existed with centralised planning, subverting its aims by providing a viable and needed economic alternative.

[40] DRV stands for 'Democratic Republic of Viet Nam', changing later to 'Socialist Republic of Viet Nam' following the 1975 reunification of North and South Viet Nam (Irvin 1995, 746).

Efforts to reform development planning began slowly in the early 1980s (Irvin 1995, World Bank 1995), slowed by Soviet bloc aid which temporarily propped up the Vietnamese economy (Elliott 1992). Limited ad hoc reforms in the early 1980s failed to significantly stimulate the economy and through the mid-80s, Viet Nam experienced declining per capita food production, famine conditions in the north, and annualised inflation rates ranging from 130-1000% (Elliott 1992, Irvin 1995). The impetus for more radical reform of Viet Nam's development planning process was the death of the Communist Party General Secretary, Le Duan, in 1986 and his replacement by a reformist, Nguyen Van Linh (Irvin 1995). The Sixth Party Congress, held in December of 1986, saw an open recognition that "centralised management...has weakened the socialist economy....(and) put distribution and circulation in a state of chaos" (cited in Elliott 1992, 132). The Congress effectively called for an abandonment of the classical centrally-planned socialist industrialisation model in favour of a decentralised agriculture-led model (Irvin 1995).

Against this backdrop, the *doi moi* policy reforms[41] were launched, guiding the country away from central-planning toward a market economy, and these were followed by a second, more radical wave of reforms in 1988-89. Additional reforms have continued to be launched to this day, with occasional temporary retrenchment, calls for renewed conservatism or in some cases, reversals (Hainsworth 1999). Viet Nam is now into its second decade of *doi moi* reforms (Hainsworth 1999), and although the country has witnessed rapid

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[41] A succinct translation is difficult but it is generally understood to mean 'economic renovation/reform in the pursuit of a mixed economy', 'openness to new ideas', and, somewhat less frequently, 'change within government and society'. Most simply, *doi moi* refers to the basket of reforms needed to facilitate the transition from a centrally planned economy to a market-based 'multi-sectoral economy (Hainsworth 1999). Policy reforms include the reduction and elimination of industrial subsidies, the granting of long-term land tenure certificates, free trade of agricultural products, elimination of restrictions on small enterprises, closure of unprofitable State Owned Enterprises, promotion of individual self-reliance, and establishment of a suite of policies designed to attract foreign investors (Elliott 1992, Irvin 1995, SRV 1996, Hainsworth 1999).

economic growth as a result, negative side effects of *doi moi* policies are beginning to emerge (e.g. environmental degradation and development-induced forced resettlement). Throughout the early 1990s, Viet Nam's GDP grew by an estimated 8.2% per annum (SRV 1996, MPI/UNDP 1997c), inflation dropped from 400% in 1988 to 5.3% in 1993 (World Bank 1995, 62), and industrial and service sector growth has provided a measure of balance to the extremely high dependence on agriculture of the 1950-1980 period. The incidence of household poverty has been estimated to have been reduced by more than 35% since the launching of *doi moi* reforms in 1986[42] (UNDP 1996b, 1).

Along with impressive and consistent gains in economic expansion and poverty reduction, the dismantling of centralised planning has brought with it problems related to the devolution of planning control and development planning coordination by the central government. Regionalism, the influence of powerful local individuals and the tendency of provincial and commune administrations to pursue their own objectives regardless of whether these are in the broader public interest, are all problems with which the central government of Viet Nam is wrestling (Elliott 1992). Perhaps more importantly however, *doi moi* reforms have also led to a host of unintended social and environmental problems, particularly rising income disparities (Hainsworth 1999), regional development disparities (UNDP 1996b) and widespread impacts on the environment (World Bank 1995).

Viet Nam's current openly avowed development objective is to use industrialisation and modernisation as a means of turning the country from a "backward, agricultural country"

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[42] Two 1993 surveys on which the UNDP based this estimate found that 90% of poverty-stricken households were in rural areas of Viet Nam.

(SRV 1996, 5) into an industrialised nation. Under this vision, agriculture and other primary sector activities are expected to decline steadily as a percentage of Viet Nam's GDP, to be replaced by high-value manufacturing and service sector industries. The Vietnamese government has established three broad 'focal economic zones' designed to act as growth poles for industrial development[43] (MARD 1997 in Hainsworth 1999, 47), and within these broad zones has designated land for many 'export processing zones' and 'high technology industrial parks' (World Bank 1995, SRV 1996). To achieve the Viet Nam government's desired rate of GDP expansion of 9-10% per annum over the 1990-2000 period, planned growth rates for industrial outputs were 14-15% per annum, while service sector growth was planned to be 12-13% (SRV 1996, 6). This represents a doubling of industrial output and service sector contributions in only 5-6 years, and is indicative of the speed with which the Vietnamese government wishes to industrialise and modernise.

The environmental implications of *doi moi* policies and Viet Nam's rapid industrialisation trajectory have received increasing attention through the 1990s, both by development aid and Vietnamese government agencies. Over 50% of the country's forest cover has been lost since 1943[44] and agricultural land per capita has decreased by 50% (World Bank 1995, MPI/UNDP 1997c, Quy 1997). Coastal wetland ecosystems such as estuaries, seasonally-inundated deltas, and mangrove forests have been hard hit by a variety

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[43] These three zones are: 1) Hanoi-Haiphong-Quang Ninh region in northern Viet Nam, 2) Quang Nam-Da Nang-Quang Ngai region in central Viet Nam, and 3) Ho Chi Minh City-Dong Hai-Vung Tau in southern Viet Nam. The Asian Development Bank has estimated that over 80% of all Foreign Direct Investment commitments have been made in these three areas alone (ADB 1995, 25).

[44] In 1943, 67% of the country was forested but by 1991 this had dropped to 29%. The Northern Mountains region was worst hit, dropping from 95% forest cover to just 17% over the same time period. (World Bank 1995, 14). Afforestation programmes have reduced the rate of loss but have not yet halted net losses, and primary forest are being cut at a rate "far exceeding their natural regenerative capacity" (Rambo 1995, xiii).

of economic development pressures, particularly agriculture and forestry, aquaculture[45], and urban and industrial development. Agricultural intensification and extensification, while an important contributor to Viet Nam's food security, have increasingly led to environmental damages such as loss of biodiversity, soil degradation, habitat fragmentation and agrochemical pollution. Demand for forest products for construction and manufacturing has risen rapidly, leading to governmental efforts to reduce felling quotas (SRV/UNDP 1995b) and a 1991 ban on the export of logs and timber (World Bank 1995).

Concerns about environmental degradation in Viet Nam are made all the more urgent by observations that, despite the successes of *doi moi* policies, Viet Nam is still one of the poorest and most densely populated nations in the world (World Bank 1995), particularly in rural areas. As ranked by the United Nations 'Human Development Index', Viet Nam is considered to be at the lower end of a series of 'Medium Human Development' countries, placing 110th out of 174 countries: other countries bracketing Viet Nam's placement in this index include Algeria, El Salvador, Bolivia and Swaziland (UNDP 2001). Poverty data from 1992-1993 revealed that 22% of all Vietnamese families fell below the hunger poverty line, and that 90% of these families live in rural areas (Hainsworth 1999, 1). Viet Nam has a rural population of over 55 million, extremely high rural population densities in the Mekong and Red River deltas (comparable to Java or Bangladesh (Hainsworth 1999, 49)), and one of the lowest current levels of per capita cultivated land area in the world (0.13 ha/person) (World Bank 1995). It has been estimated that with the combined effects of continued population

[45] The World Bank labeled the most widespread and destructive form of aquaculture practiced in Viet Nam as "shifting aquaculture". This refers to the practice of constructing low-cost ponds in acid-sulphate soil regions (formerly mangrove forest), and abandoning the pond for a new location when waters become too acid to support shrimp, usually within four years (World Bank 1995, 46).

growth and land quality degradation, per capita cultivated land area in areas such as the Red River Delta will decline to just 0.03 ha/person by 2025 (Quy 1997, 26). In Viet Nam, as in other countries, rural populations depend heavily on rural natural resource bases and the economic activities (such as agriculture, forestry and fisheries) associated with natural resources. However, it is Viet Nam's rural population density which sets it apart from many other countries: negative environmental byproducts of economic activity are likely to be felt keenly by huge numbers of Vietnamese rural dwellers. The development and use of planning processes, tools and techniques, such as environmental impact assessment, which can reduce such impacts on Vietnamese rural dwellers is thus an exceedingly important component of Viet Nam's pursuit of sustainable development.

The rapid industrialisation pursued under *doi moi* policies has also led to obvious environmental impacts in urban areas of the country. Rapid urbanisation (often unplanned and as a result of new industrial employment opportunities), unsuitable and dangerous mixes of housing and industry, proliferation of air[46] and water pollution, and the production of increasing amounts of solid waste are all urban afflictions linked to industrialisation. The World Bank (World Bank 1995, 54) summed up the urban impacts of Viet Nam's industrialisation policies as follows:

> Contrary to casual observation, urban and industrial water and air pollution has become critical in Vietnam's major cities...There are no effectively functioning treatment plants. Untreated sewage and industrial wastewater is discharged into water bodies and streams within and around (urban) areas. Local authorities lack the capacity to dispose of wastes and control emissions.

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[46] In 1995, the United Nations Industrial Development Organization (UNIDO) estimated that over 3,000 Vietnamese industrial enterprises were discharging wastewater without any form of treatment, and over 50 toxic or hazardous gases were recorded present in industrial centres such as Hanoi, Ho Chi Minh City and Viet Tri (UNIDO 1995 in SRV/UNDP 1995b, vii).

> Vietnam's rapidly increasing pace of industrialisation and lack of pollution prevention and control has created urban pollution of soil, air, and water, the extent to which varies with location and type of industries.

These observations are particularly true in northern Viet Nam where the bulk of heavy industry is located.

Viet Nam's severely restricted forest and land bases suggest that, unlike many of Viet Nam's neighbours, industrialisation under *doi moi* policies cannot depend on expansion of existing levels of the conversion of natural capital to manufactured capital (SRV/UNDP 1995b). *Doi moi* policies initially directed investment into sectors where Viet Nam enjoyed a comparative advantage, including both labour intensive (e.g. textile, clothing and footwear) and resource intensive industries (e.g. fossil fuels, construction materials and food processing), leading to increased pollution and resource depletion. However, there has been a growing recognition in the country that Viet Nam's per capita stocks of natural capital are a fraction of nearby countries such as Malaysia, even after significant economic development has already taken place[47]. Thus, foreign aid agencies have begun working with the Vietnamese government to design environmental and economic regulations ensuring that both domestic and foreign economic developments are guided toward environmental sustainability (SRV/UNDP 1995b, viii).

Environmental concerns and rising awareness culminated in two key policy contributions in the early 1990s: the June 1990 release of Viet Nam's 'National Plan for

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[47] In 1995 the Vietnamese Government and UNDP estimated that forested land per capita in Viet Nam was 0.14 ha/person and arable land was 0.09 ha/person, while in Malaysia the figures were estimated to be 1.02 ha/person (forested land) and

Environment and Sustainable Development (NPESD), and participation in and submission to the 1992 UN Conference on Environment and Development (UNCED). The NPESD represented a significant formal policy commitment to the incorporation of environmental considerations into Viet Nam's development planning framework, and guided the reform of development planning policies, action plans and institutional structures throughout the 1990s (SRV/UNDP 1995b). Viet Nam's UNCED submission, while not binding, is best viewed as an international declaration of the country's commitment to "sustainable national development" (SRV 1992, 2), and sustainable development goals. These and other initiatives described in the following section suggest that Viet Nam has made good initial progress in addressing environmental concerns linked to *doi moi* policies, and that there is a serious desire among some members of the Vietnamese government to restructure the development planning process along sustainable development lines. Nonetheless, Viet Nam's environmental prognosis remains questionable to many aid agency staff, stimulating among aid officials a sense of urgency and desire to fund sustainable development-related aid programmes. As one NGO country representative suggested:

> Every (developing) country has problems, and every country is trying to achieve economic growth, and for most countries it is obvious how it will turn out environmentally and economically....In Viet Nam it could go either way. They could become another tiger, or they could fall off into some kind of eco-spasm".
>
> (Informant #15 1994)

It is within this framework of caution and concern that aid officials have embraced one particular environmental planning process, environmental impact assessment, as a means for Viet Nam to facilitate sustainable development.

0.27 ha/person (arable land) respectively (SRV/UNDP 1995b, vii).

3.2 The Chronology of EIA in Viet Nam

The remainder of this chapter is an historical analysis of the development and implementation of EIA in Viet Nam and the model of EIA practiced to date, and an introduction to the many EIA capacity building projects that have been funded and carried out by development aid agencies. Information sources which contributed to the analyses included published books, published journal, newspaper and magazine articles, "grey literature" (unpublished reports issued by government agencies, development aid agencies, research institutes and consulting firms) and key informant interviews.

Viet Nam, largely due to its tumultuous recent development history, has only recently directed attention toward the unwanted environmental and social impacts of development. Unlike many counterpart nations in Southeast Asia, environmental impact assessment is a new addition to the Vietnamese planning structure. Although hopes are high that EIA will play a significant role in future movement toward sustainable development, current capacities to implement EIA in Viet Nam are very low.

Prior to 1983, the term "Environmental Impact Assessment" was virtually unknown in Viet Nam (Can 1997). However, concerns over the unintended negative effects of development, particularly environmental effects, received steadily increasing attention in the country throughout the 1980s. The *Doi Moi* policies initiated in 1986 and still underway, were a major catalyst to the increased profile of environmental concerns in the country. New institutions and administrative structures were created in order to address such environmental

planning concerns: institutions crucial to an understanding of the environmental and development planning system that has since emerged are described in Box 3.1.

As early as 1984, Viet Nam explored the use of EIA as a means of reducing the negative impacts of economic development (Can 1994a). Bolstered by the many changes brought on by the Doi Moi policy, the country has since made steady progress in advancing the use of EIA within its development planning framework. Viet Nam's official participation in the 1992 UNCED conference, and its progress on a host of international and national environmental action plans, have assisted in raising the profile of environmental planning processes such as EIA.

Viet Nam's key piece of environmental protection legislation, the National Law on Environmental Protection (NLEP), came into effect early in 1994. As a "framework" piece of legislation, it requires MOSTE (at the central level) and DOSTEs (Departments of Science, Technology and Environment at the provincial level) to prepare specific decrees, guidelines, decisions, and circulars addressing specific problems. While separate laws exist, for example on land, water resources and forestry, the NLEP regulates general issues related to environmental protection. The government has already issued several decrees including those pertaining to: environmental impact assessment; inspection and control; environmental quality standards, and environmental monitoring. Recently, emphasis has been placed by the government on the issuance, by DOSTEs, of environmental standards for each of Viet Nam's 53 provinces. However, the implementation of the NLEP has been slow, and observers in

Viet Nam have commented that "what is said in the Environmental Protection Law is not yet fully implemented, not even close" (Informant #51 1998).

Box 3.1: Environmental Planning Structure in Viet Nam

There are two key Ministries responsible for administering the confluence between environmental and development planning. The first, the Ministry of Science, Technology and Environment (MOSTE) and its provincial level counterpart DOSTEs, was given responsibility for environmental protection in Viet Nam in 1992. In 1994, restructuring within MOSTE produced the National Environment Agency (NEA) which has the overall authority to implement environmental policy in the country. The NEA is responsible for developing environmental legislation and standards, reviewing EIAs, and carrying out compliance enforcement and environmental monitoring (Asia Environmental Trading (AET) Ltd. 1999). While many other line ministries such as Forestry or Agriculture deal regularly with environmental issues, MOSTE takes official responsibility for environmental affairs in Viet Nam. MOSTE is not considered to be a strong ministry (Informant #15 1994, Informant #16 1994, Informant #23 1995), particularly in comparison to the Ministry of Planning and Investment or the Ministry of Industry. MOSTE's weakness and lack of official recognition by other ministries may be explained by its relative "youth", its overall shortage of staff and funding, Vietnamese development priorities, and the general state of procedural and regulatory flux surrounding development planning in Viet Nam.

The most important organisation regulating development planning is the Ministry of Planning and Investment (MPI), also judged by many to be one of the most powerful ministries in Viet Nam. The MPI was created in 1995 following the merger of the State Planning Committee (SPC) and the State Committee for Co-operation and Investment (SCCI). Most significant development projects must gain investment licensing approval from the MPI, a process that may or may not trigger an EIA depending on a variety of formal and informal criteria relating to project type, size and financial investment (World Bank 1995).

In addition to MOSTE and MPI, other line ministries have had environmental protection mandates codified through the establishment of Environment Units within ministerial Science and Technology Departments, or through the work of environmental specialists within the personnel ranks of the ministry. In some cases, limited environmental impact assessment functions have been carried out within Environment Units (e.g. the Ministry of Transport and Communications has carried out initial environmental impact assessment studies on its own highway and port development proposals) (Informant #49 1998). Nonetheless, final EIA review responsibility remains with MOSTE.

(Sources: Informant #15 1994, Informant #16 1994, Informant #23 1995, World Bank 1995, Informant #49 1998, Asia Environmental Trading (AET) Ltd. 1999).

In addition to the expansion of the country's regulatory and administrative framework, another critical factor leading to increased acceptance of environmental planning and EIA in Viet Nam has been the expansion, or in many cases, resumption[48] of multilateral,

[48] The International Monetary Fund lifted its ban on relations with Vietnam on July 15, 1993. Lending to Vietnam by the Asian Development Bank resumed July 28, 1993, and other majors donors such as the World Bank resumed lending

bilateral and non-governmental development aid, "especially since 1993" (SRV 1996, 26). This has brought with it both a requirement that environmental assessment be carried out on proposed aid-funded projects, and a relatively new development aid mandate: the desire by aid agencies to instill environmental planning measures such as EIA as part of the overall aid package. One senior staff member of a multilateral aid agency observed that in Viet Nam, many such measures have been "donor-driven", with aid donors identifying priority environmental issues and designing the responses (Informant #1 1994). Environmental impact assessment has been a very high priority for many donors, and a multitude of programmes concentrating on EIA "capacity-building" have been implemented.

Viet Nam's experience with environmental impact assessment can be thought of as occurring in three relatively distinct phases: the learning phase (pre-1990); the formalisation phase (1990-1994), and; the implementation and capacity-building phase (1995-present). These are detailed in the following sections.

3.2.1 Phase I: The Learning Phase (pre-1990)

The "learning" phase of EIA in Viet Nam was characterised by a series of indigenous research programmes, training efforts, and "learn-by-doing" EIA case studies (see Table 3.1). The creation of the National Research Programme on Environment (NRPE) in 1981 provided the first measure of structure to Viet Nam's progress in applying EIA, and the programme was responsible for the first EIA course offered in-country. Over 200 scientists from universities, colleges and research institutes around Viet Nam participated in NRPE over the next ten years (Can 1994b). During the same time period there were several attempts by

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immediately following Vietnam's repayment of IMF arrears on Oct. 7, 1993 (Informant #2 1994).

university departments, government staff, specialised research programmes, and institutes to conduct initial environmental examinations (IEE) or "pilot" EIAs of large projects. However, since the development planning process of the time period did not legally require EIA, and EIA methods were not well known in Viet Nam, early studies were largely "ad hoc", isolated from official planning processes, or were carried out or post-construction. One of the most historically significant of these post-construction EIAs was carried out in 1989 on the Hoa Binh dam and reservoir project, and its results have served as EIA training case study materials ever since (see Plate 3.1 and Box 3.2).

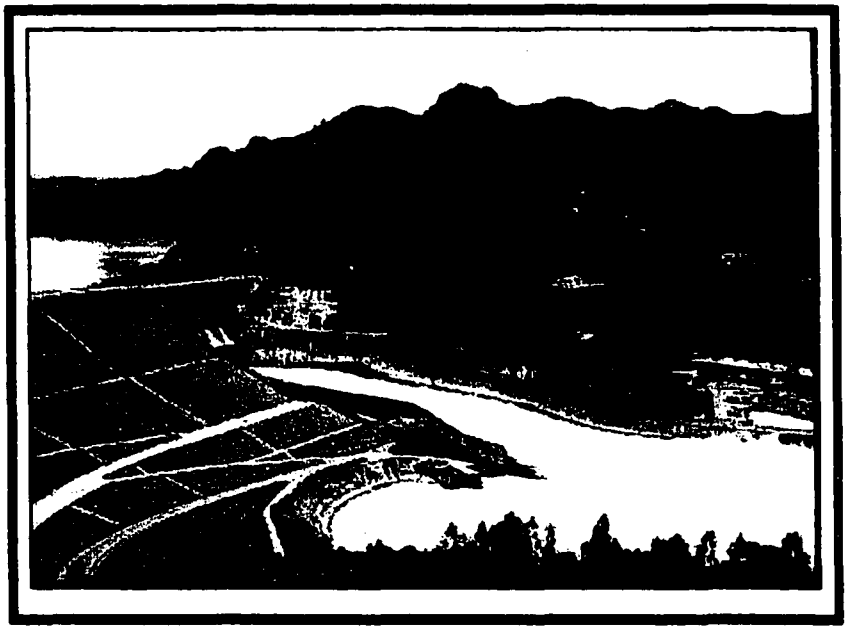
Table 3.1: The Learning Phase of EIA in Viet Nam (pre-1990)

1981:	•State Committee for Sciences and Technology (SCST) funds the National Research Programme on Environment (NRPE).
1984:	•NRPE offers first EIA short-course. •First EIA initiated in Viet Nam: Tri An Water Reservoir (initial environmental investigation and later, a post-construction EIA).
1985:	•First legislation indicating the need for environmental considerations in decision-making on major development projects (Resolution No. 246/HDBT, 20/09/85). •Draft National Strategy for Environmental Protection outlines suggested actions to provide for the "gradual and solid development of a comprehensive framework for national and sub-national environmental planning and management" (SRV 1992, 35).
1986:	•Five year research project on EIA methods and procedures initiated by SCST. EIA legislation and approaches of Indonesia, Malaysia and Thailand examined.
1987:	•First extended EIA training course offered at Center for Natural Resources and Environmental Studies (CRES), University of Hanoi. Between 1987-1995, 180 SCST staff attend the six-month course. •Environmental Impact Assessment Research Unit (EIA-RU) established at CRES
1989:	•Hoa Binh Reservoir post-construction EIA case study carried out by NRPE.

(Sources: Hirsch 1992, IDRC 1993a, Can 1994a, Can 1994b, Can 1997, Sang 1997)

Environmental impact assessment during the learning phase had value mainly as a teaching, training and capacity-building resource rather than as a development planning input. This phase was typified by indigenous efforts to learn about EIA, yet was hampered by a lack of coordinated networking among EIA researchers and was not linked in any way to the Vietnamese development planning process.

Plate 3.1: Hoa Binh Dam



(Photo: Doberstein 1998)

Box 3.2: Hoa Binh Hydropower Project

The Hoa Binh dam, 70 kilometres west of Hanoi, is Viet Nam's largest hydro project. The dam was built in stages between 1979 and 1994, and when completed had a maximum generating capacity of 1920 MW and a reservoir of 230 km length (Research Notes 1998). By completion, a total of 58,000 residents had been displaced, 167 workers had been killed, and 11,000 ha of agricultural and forested land had been flooded. Although no formal environmental or social impact studies were conducted before the dam's construction, limited "post-construction" EIA studies were carried through the government-funded National Research Programme on Environment, and then used as case study training materials by various Vietnamese university departments.

Hirsch (1992) carried out independent impact assessment research as the dam neared completion. Although his study was not a formal EIA linked to Vietnamese planning processes, it revealed much about the nature of environmental and social impacts caused by the dam and serves as a useful model as to why EIA studies should have been carried out. Although the dam provides significant positive downstream impacts (primarily electricity generation and flood protection), most significant negative impacts were concentrated in the uplands regions adjacent to and upstream from the dam. Significant among these impacts were population displacement, deforestation (for reservoir preparation, and due to rapid clearing of hillsides near the reservoir by farmers displaced to upland portions of the watershed), enhanced soil erosion and loss of sustainable livelihoods for the former farmers of the region. Although the reservoir was designed to be serviceable for over 75 years, excess siltation has reduced its expected usefulness by 25 years. Most displaced farmers are ethnic minorities, primarily Muong, Tay, White Thai and Black Thai, although Hmong and Dao communities were also indirectly affected. Efforts to compensate these groups were judged to be an example of "overly centralised planning with little local involvement", and were marginally effective and wasteful (Hirsch 1992, 12). Compensation included both direct cash compensation and land in new resettlement sites (usually away from the reservoir edge in elevated uplands sites), yet "most families found the amounts insufficient even to cover basic removal expenses" (UNDP 1996b, 118).

Vietnamese planners have learned from the Hoa Binh dam experience and beginning in 2000 will conduct an EIA on a linked project: the Son La hydro scheme upstream of the Hoa Binh reservoir. The scheme will have up to 3600 MW of generating capacity, or roughly twice that of Hoa Binh dam. Hirsch (1992, 25) estimated that up to 130,000 ethnic minority peoples and Kinh majority peoples will be displaced by the project. Although impact assessment studies had not commenced as of 1998, the scheme will likely be subject to a series of environmental, economic and social impact studies (Informant #59 1998). Because the project will likely be funded by international aid agencies, the Vietnamese government has taken steps to ensure that the impact assessment undertaken for the scheme is of a relatively high quality. The government has requested that at least three different aid-funded capacity building projects prepare guidelines for hydro impact assessment studies.

The value of such guidelines remains in question: some key informants in Viet Nam were of the opinion that the dam will go ahead regardless of EIA study findings (Informant #15 1994, Informant #48 1998). The proof of this, according to one researcher at an environmental institute, is the Vietnamese Government's ongoing effort to relocate the soon-to-be flooded provincial capital Lai Chau to Dien Bien (Informant #48 1998). Nonetheless, EIA studies will undoubtedly recommend impact mitigation possibilities, ranging from design changes to resettlement plans, and may represent the last chance of reducing some of the negative environmental and social impacts of the project.

(Source: Hirsch 1992, Can 1994, Informant #15 1994, UNDP 1996b, Informant #48 1998)

3.2.2 Phase II: The Formalisation Phase (1990 - 1994)

Over the 1990-1994 period, there was a rapid increase in the number of initiatives linked to environmental impact assessment, and strong progress was made toward formalising the role of EIA in development planning (see Table 3.2). Most notable during this period was the release and implementation of the NPESD. Within this plan, the development and implementation of EIA was seen by the Vietnamese Government as one of its "highest priorities" in reforming the government's legislative, policy and development planning framework (SRV/UNDP 1991, 20). The NPESD spawned many linked activities, including conferences, institutional restructuring, and issuance of supplemental environmental guidelines. Although increasingly out of date, the NPESD remains the single most important event responsible for the legitimisation of EIA in Viet Nam.

Viet Nam's environmental policy and institutional framework evolved most rapidly between 1993 and 1994. Viet Nam passed its National Law of Environmental Protection (NLEP) late in 1993 (see Box 3.3). Although the NLEP represents an environmental policy statement more than a set of clear rules, procedures, liabilities or sanctions, it is nonetheless seen as a major achievement that some Vietnamese individuals worked toward for over 20 years (Informant #9 1994). With the NLEP coming into force early in 1994, EIA became a requirement for many proposed developments, with specific guidelines (Decree 175/CP) issued later in the year. As a result of NPESD recommendations, the Vietnamese National Environment Agency (NEA) was created in 1994 as a sub-unit within MOSTE, and as the central and prime authority administering and implementing EIA in Viet Nam.

Table 3.2: The Formalisation Phase of EIA in Viet Nam (1990-1994)

1990:	•NRPE submits detailed proposal for suggested EIA regulations to SCST. •International conference on "Environment and Sustainable Development" held in Hanoi. •Instruction No 187/CT (12/06/97) implementing "National Plan for Environment and Sustainable Development: a Framework for Action, 1991-2000" (NPESD). •Initiation of first EIA prepared by an international environmental consultancy (ESSA Ltd., Canada), Quan Lo - Phung Hiep irrigation project.
1991:	•Government publishes NPESD guiding the rapid development of environmental planning, and especially EIA, over the following years.
1992:	•State Committee for Science and Technology restructured and renamed Ministry of Science, Technology and Environment (MOSTE).
1993:	•Prime Minister issues Order No. 73/TTg, (25/02/93) on "the urgent task of environmental protection" which requires all major development projects to "have an EIA". •Issuance of temporary guidelines for the "implementation of environmental impact assessments" for major development projects (No. 1485/MTg, 10/09/93). •Law on Environmental Protection (umbrella legislation for EIA requirements) promulgated Dec. 27, 1993.
1994:	•National Law on Environmental Protection (NLEP) in force as of 10/01/94. Articles 17 and 18 outline EIA requirements. •MOSTE's Department of Environment and Natural Resources renamed the "National Environment Agency" (NEA) and given implementing authority for EIA. Initial staff of 17 rising to 30 by year end. •Government decree on "Guidance for the implementation of the Law on Environmental Protection" (Decree 175/CP, 18/10/94). Chapter 3 details EIA requirements. •Guidelines issued for "EIA for ongoing plants" (Circular 1420/MTg, 26/11/94), "regulation and organisation of the appraisal committee on environmental impact assessment" and "issuance of environmental licenses" (Decisions 1806/QD-MTg, 31/12/94 and 1870/QD-MTg, 31/12/94).

(Sources: SRV/UNDP 1991, Can 1994a, Can 1994b, Informant #11 1994, SRV 1994, SRV/UNDP 1995a, Sang 1997)

Initial EIA requirements specified under Decree 175/CP were ambitious, requiring that both *proposed* and *existing* domestic and foreign joint-venture projects and institutions of virtually all kinds and scales would be subject to EIA, as would area master plans, and provincial and urban development plans (Binnie & Partners et. al. 1994, SRV/UNDP 1995a). The requirement that existing projects (i.e. approved before the NLEP came into force) should conduct an EIA is atypical of the normal use of the EIA concept, and is perhaps better known as "environmental auditing". However, it should also be noted that other developing countries such as Indonesia have adopted similar requirements in the early years of EIA

implementation. Such an approach is best seen as a conscious desire by developing countries to bring all developments under at least cursory environmental, and in some cases social, impact scrutiny.

Box 3.3: Vietnamese EIA Requirements in Law

Articles 17 and 18 in the National Law of Environmental Protection provide the legal basis for EIA in Viet Nam, while Decree 175/CP while a variety of Circulars, Decisions and Official Documents provide further details (see Tables 3.1, 3.2 and 3.3).

National Law on Environmental Protection

Article 17: Organizations and individuals in charge of the management of economic, scientific, technical, health, cultural, social, security and defense establishments that have begun operation prior to the promulgation of this law must submit an EIA report on their respective establishments for appraisal by the State management agency for environmental protection.

In case of failure to meet environmental standards, the organizations of individuals concerned must take remedial measures within a given period of time as stipulated by the State management agency for environmental protection. Upon expiry of the stipulated time limit, if they still fail to meet the requirements of the State management agency for environmental protection, the latter shall report to the higher State authority at the next level to consider an decide on the suspension of operation or other penalizing measures.

Article 18: Organizations, individuals when constructing, renovating production areas, population centers or economic, scientific, technical, health, cultural, social, security and defense facilities; owners of foreign investment or joint venture projects, and owners of other socioeconomic development projects, must submit EIA reports to the State management agency for environment protection for appraisal.

The result of the appraisal of EIA reports shall constitute one of the bases for competent authorities to approve the projects or authorize their implementation. The Government shall stipulate in detail the formats for the preparation and appraisal of EIA reports and shall issue specific regulations with regards to special security and defense establishments mentioned in Article 17 and in the article. The National Assembly shall consider and make decision on projects with major environmental impacts. A schedule of such types of projects shall be determined by the Standing Committee of the National Assembly.

Government Decree 175/CP

According to Government Decree 175/CP, EIAs must be conducted for the following projects, programs and strategies:

1) The overall strategies for regional development, strategies and plans for the development of provinces and cities under the central government, and strategies for urban and population development.
2) Economic, scientific, health care, cultural, social, security and defense projects.
3) Projects being carried out within Viet Nam with the funds invested, assisted, granted or contributed by foreign organizations or individuals or international organizations.
4) Projects mentioned in Items 1, 2 and 3 above that were approved before 10 January 1994 but that have not yet conducted an EIA.
5) Economic, scientific, health care, culture, social, security and defense units that have been operating since before 10 January 1994.

(Source: SRV/UNDP 1995a)

Viet Nam designed its EIA requirements with inputs from a variety of international influences. Vietnamese policy-makers examined the EIA systems and experiences of other Asian countries including Indonesia, Malaysia, and most notably, Thailand. Thailand's EIA system was felt to be particularly relevant due to the country's similar geographical position, climatic regimes and environmental problems (Informant #29 1995, Informant #30 1995). As well, a series of multilateral, bilateral and NGO aid agencies influenced the establishment of Viet Nam's EIA process. In 1992, the University of Hawaii's East/West Center hosted a group of Vietnamese researchers for an intensive six-week effort at producing a Vietnamese-language EIA manual (Informant #30 1995, Informant #48 1998). During the same time period UNEP, ESCAP, UNESCO, IUCN and a host of bilateral aid agencies provided further assistance through workshops, informal discussions and the provision of secondary documents relating to EIA (Informant #30, 1995).

3.2.3 Phase III: The Implementation/Capacity-Building Phase (1995-present)

During the 1995-1997 period, continued progress on EIA implementation was made and there was a rapid expansion in the numbers of national- and provincial-level environmental assessments conducted and reviewed. The multitude of supporting conditions needed to integrate EIA with Vietnamese development planning processes led to a steady stream of new regulatory guidelines, NEA staff level increases and both indigenous and development-aid funded capacity-building initiatives (see Table 3.3).

This process of capacity-building is anticipated to continue well into the future. Over the 1998-2000 period, the NEA has indicated its desire to create an information database system for the management of EIA information, to expand its national monitoring network, and to expand efforts to integrate EIA with regional and national planning processes (Sang 1997, 10). Such capacity-building efforts will be financed primarily through multilateral, bilateral and NGO aid funding.

Table 3.3: Implementation/Capacity-Building Phase of EIA in Viet Nam (1995-present)

1995:	•Guidelines on "preparation and evaluation of environmental assessment reports for foreign direct investment projects" (Circular 715/MTg, 03/04/95). •Rapid increases in the numbers of EIAs produced and reviewed (>800 as of 03/95). •National Forum on Environmental Education and Training held 27-29/12/95. •NEA has a total of 35 staff by year end.
1996:	•Sample format for EIA reports (Official Document 812/MTg, 17/04/96). •Environmental Standards promulgated (Decision 2920/QD-MTg, 21/12/96).
1997:	•NEA staff levels increase to 60. •Guidelines on "Control of pollution at business establishments after they have obtained a decision for approval of environmental impact assessment report" (Circular 276/TT-MTg, 6/03/97). •Guidelines on "Instruction on guidance and appraisal of environmental impact assessment reports for investment projects" (Circular 1100/MTg, 20/08/97). •>250 large project EIAs reviewed by NEA to date, and >1250 smaller projects reviewed by MOSTE provincial counterparts (DOSTE). Few proposals rejected on environmental grounds alone: 70% are required to modify the proposed development in some manner. •Of >8000 factories inspected by NEA staff, 46% are fined $50 - $1450 USD for polluting in excess of national standards (mainly chemical, garment, cement and seafood plants). At least 54 enterprises are forced to close and $110,000 USD in fines are collected.

(Sources: SRV 1994, IDRC/SRV 1995, World Bank 1995, Freshfields 1997, Sang 1997, SRV/UNDP 1995b, Thai 1997, Vietnam Economic Times 1997, Vietnam Investment Review 1997a & 1997b)

3.3 The Model of EIA Initially Practiced in Viet Nam

Since the mid-eighties, EIA in Viet Nam has evolved from limited use as a training and learning resource, to increasingly formal and systematic efforts to establish it as part of the development planning process. Indigenous efforts to transform development planning processes, and the proliferation and growing influence of EIA capacity-building aid

programmes, have led to the current situation where there is a general acceptance of the need for environmental planning procedures such as EIA, a legislative requirement that EIA be conducted for certain classes of proposed developments, and a track record of carrying out and reviewing over 1200 EIAs (see Appendix 3 for a description of the institutional arrangements and general steps in Viet Nam's EIA process). Every province in Viet Nam now has a functioning DOSTE and personnel numbers in the National Environment Agency have grown rapidly (World Bank 1995). The EIA requirement that operational projects should conduct an EIA has resulted in many old and polluting industries being closed down, fined, relocated and/or redesigned to incorporate modern pollution-prevention equipment (Vietnam Investment Review 1997b, Informant #53 1998). Viet Nam has thus made an "excellent start on developing the regulatory regime necessary to implement the findings of the EIA process" (SRV/UNDP 1995a, 50).

Nonetheless, EIA as practiced in Viet Nam following the implementation of the NLEP is judged to have had a relatively minor effect upon development planning and decision-making processes, primarily due to the model of EIA adopted. Using the seven themes outlined in Chapters One and Two, the first few years of EIA practice are judged to have demonstrated that a limited, technical model of EIA (see Table 3.4) was initially adopted for use in Viet Nam. Public involvement in the Vietnamese EIA process, although present on an informal and case-by-case basis (Welles 1995), has been judged to be "weak" and visible "at all stages of the environmental assessment process" (Hagler-Bailly 1996, 3-5). Viet Nam's EIA regulations, unlike those of many other countries, "do not contain any reference to public participation" (World Bank 1995, 323). Whenever the opportunity to

participate is granted, the rules governing public involvement are unrealistically rigid: final EIA reports written in Vietnamese are made available to the public "at one or more of the following places: government agency offices, health posts, schools and libraries", and any public comments must be made in writing and within a short time frame (Hagler-Bailly 1996, 3-7). This consigns public participation to the very last stages of EIA preparation, and begs the question how many Vietnamese people could meet the necessary requirements to participate[49]. Public participation is not allowed prior to the comment period, and this has contributed to the low quality and "superficial" (Hagler-Bailly 1996, 3-6) character of social analyses in EIAs completed to date.

Table 3.4: EIA Model Initially Practiced in Viet Nam

Model Criteria	Vietnamese EIA Practice
INTENDED ROLE FOR EIA IN VIETNAMESE DEVELOPMENT PLANNING	• Technical input to technocratic planning • Mitigation role • Legitimising decisions already taken
SCALE OF ASSESSMENT	• Exclusively project-level EIA
EPISTEMOLOGICAL BASIS OF EIA	• Scientific and quantitative data • Indigenous knowledge, values or opinions not solicited or incorporated with EIA studies
KNOWLEDGE CERTAINTY IN EIA	• EIA predictions assumed to be accurate • Uncertainty not acknowledged
TIMING AND LENGTH OF EIA ACTIVITIES	• Studies conducted late in the project cycle (following investment licence, land clearance or partial construction) • "One-shot" studies of short duration
PUBLIC INVOLVEMENT IN EIA	• Virtually non-existent • When public are involved, formal consultation mechanisms exclude majority of public
PLANNING THEORY BASIS	• Rational comprehensive planning + "cronyism"

[49] In order to participate under the current requirements, individuals must have an understanding of what EIA is, timely knowledge about EIA comment and review periods, access to the location(s) where the report is lodged, a high enough standard of technical Vietnamese language to understand the report's nuances, and the required written language abilities to provide written comment. This likely excludes more than 95% of Viet Nam's population.

Despite international advances in the understanding and practice of "non-project" EIA, including regional/areawide environmental assessment and strategic assessment, project-specific EIA has dominated the first few years of implementation in Viet Nam. With limited budgets to address environmental planning (see Table 3.5), developing country governments such as Viet Nam could "leverage" the use of EIA by first building capacity for strategic or regional assessment (thus eliminating the worst policy or programme options which may spawn hundreds of individually-damaging projects), before moving into project-specific EIA.

Table 3.5: Environmental Planning Budget: Government Public Investment Program (PIP) [50]

SECTOR	Percent of Total PIP budget
• Water Supply and Transportation	33.2
• Irrigation, Agriculture, Forestry, Fisheries	24.2
• Energy and Industry	16.7
• Telecommunications	7.1
• Others (not defined)	6.4
• Education & Training	4.2
• Society, Health	3.7
• Culture, Information	2.8
• **Science, Technology and Environment**	**1.7**
	Total=100.0%

(Source: SRV 1996, 24)

To date however, no environmental assessment of a proposed development policy has been carried out in Viet Nam (Sy 1997). This fact may be traced back to the wording of

[50] The PIP is designed to create favourable conditions for: domestic and foreign business expansion, development of human resources, and stimulation of new economic growth and structural change. It is funded approximately 55% by the

Decree 175/CP which currently governs the practice of EIA in the country: strategic environmental assessment is not mentioned. Although the Decree requires that urban and provincial development plans and area master plans should incorporate EIA studies (Binnie & Partners et. al. 1994, SRV/UNDP 1995a), this has not been carried out in general practice.

The quality of many EIA studies produced by Vietnamese consultants is considered to be very low, and may be traced to a series of disparate factors. A strong perception exists among the investment community that "any EIA will pass", particularly since many development planning decisions have already been made through traditional, personal relationships at higher levels of decision-making (Informant #51 1998). In many cases, completed EIA studies are simply treated as the tangible evidence that administrative requirements have been satisfied and that the project may proceed to the project approval stage (Informant #47 1998). In one extreme example, a Vietnamese institute involved in EIA consulting reportedly advertised the fact that the institute had completed 70 EIA studies in three months, had a standard report framework available in their computer files which could be modified to suit each new project, and could produce a small- to medium-sized EIA study for a reasonable cost in only three days (Informant #51 1998). In such an environment, "most EIAs done in Viet Nam are essentially useless, being poorly conceived and written, and are just used as a requirement to pass the project" (Informant #47 1998).

EIA quality is further lowered by a lack of willingness to fund EIA studies to an adequate level. The cost quoted to proponents by potential consultants is a major deciding factor on consultant selection, and it is common for proponents to simply select the lowest-

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Vietnamese government and 45% by development aid (SRV 1996, 23).

cost consultant rather than consider factors such as consultant reputation or EIA study design and strategy (Informant #51 1998). Another factor leading to low quality EIA studies is the time typically allotted, particularly for domestically-funded projects. Although a large foreign-funded project with a mixture of foreign and Vietnamese EIA consultants may follow a time frame typical of developed countries, most domestic- or government-investment projects have resulted in EIA studies completed within 1-4 months (Informant #41 1998, Informant #50 1998, Informant #55 1998). Social impact assessment, while clearly stated as a requirement of the Vietnamese EIA process, is lacking or superficial in most EIA reports (Informant #53 1998, Informant #60 1998). This reflects both the current lack of highly trained applied social scientists (Informant #48 1998) and a recognition that the assessment of social impacts, while improving, is still a sensitive issue for decision-makers in Viet Nam (Informant #53 1998, Informant #62 1998).

The first few years of EIA practice following the NLEP's promulgation have also pointed to a series of problems related to EIA implementation capacity in Viet Nam (SRV/UNDP 1995b, Hagler-Bailly 1996, Sang 1997). Early practice has demonstrated anomalies between the model of EIA 'as designed' and the model 'as practiced'. There have also been reports of land clearance for major development projects proceeding in advance of EIA studies (SRV/UNDP 1995b, Vietnam Economic Times 1997). In the Vietnamese development planning process, land use permits for a specific location are frequently issued to investors *before* an initial environmental examination or full-scale EIA has been conducted. Thus, crucial project location decisions are left out of the purview of EIA studies unless an EIA review results in outright project rejection and proponents are forced to 'start

over'. It has also been reported that many development projects required under EIA regulations to carry out some measure of environmental impact study "have not gone through any EIA whatsoever" (Can 1997, 116). In the first few years of EIA implementation it has been common for EIA studies to be required only of comparatively "rich" proponents, i.e. foreign joint ventures, donor projects and large projects (Informant #24 1995, Informant #58 1998). Such projects are more likely to be drawn into the EIA process due to their perceived wealth, whereas, "government projects are themselves not as yet subjected to satisfactory environmental impact assessments" (JICA 1995, 31) and many national- and provincial-level government projects which should have been subject to EIA have proceeded without any environmental or social impact studies whatsoever. Post-EIA monitoring, although specified in almost all EIA approval conditions, has generally been very weak (Triet 1997, Informant #42 1998). Each of these problems may be traced to the current lack of capacity in Viet Nam to implement the EIA process as it was originally designed.

One factor complicating Viet Nam's efforts to implement new planning measures such as EIA has been the generalised trend toward decentralising the country's administrative, regulatory and development planning functions over the last decade. In many instances, the responsibility for such functions has simply been transferred to provinces without corresponding attention paid to increasing provincial capacities (Informant #16 1994, Informant #17 1994). As well, such changes have caused a great deal of uncertainty over the jurisdiction and authority needed to implement environmental planning measures such as EIA (Informant #18 1994). In some cases, positive responses have emerged: some line ministries, provincial DOSTEs and urban authorities have developed their own

environmental units or staff specialists. However, these positive examples are far from the norm and additional capacity-building is required before decentralisation yields benefits for all regions. In some cases, decentralisation has also allowed provincial-level government decision-makers to intensify resource development and generate personal earnings through the receipt of bribe money and diversion of resource profits.

In summary, due to both weaknesses in the initial model of EIA practiced in Viet Nam and a lack of implementation capacities, "the environmental assessment process as implemented in Viet Nam is not in the critical path of the (development planning) decision-making process" (Hagler-Bailly 1996, 3-1). At present, the main value of EIA within Viet Nam's development planning process is in the identification of mitigatory actions for proposed projects: to identify some of the areas where proposed projects can be refined and their negative impacts reduced or positive impacts accentuated. There are some indications that EIA requirements have led to secondary benefits such as wider consultation across ministerial boundaries, or between national, provincial and commune or mass organisation levels (Informant #23 1995, Informant #24 1995). Fundamentally however, the EIA process in Viet Nam is not yet well placed, systematic, or powerful enough to place ecological, equity and sustainability concerns in the same league as those of economic growth. These observations are both a starting point for, and legitimation of, the need for EIA capacity-building in Viet Nam.

The following section traces the emergence of EIA capacity-building as a development aid mandate in Viet Nam, and briefly introduces each of nine aid programmes

in operation in Viet Nam since 1994. Detailed analyses of these programmes then follow in Chapter Four.

3.4 EIA Capacity-Building as a Development Aid Priority in Viet Nam

The lack of EIA implementation capacity in Viet Nam has been openly recognised for many years by government policy-makers, NEA staff and development aid agencies. As a result, EIA capacity-building has become a national development priority (SRV/UNDP 1991) and an important component of aid agency programming within Viet Nam. Although indigenous training and capacity-building for EIA has been conducted in Viet Nam since 1984, and limited foreign EIA training programmes occurred as early as 1988[51], the first significant development-aid funded EIA capacity-building initiatives did not appear until 1994 (see Table 3.6) coinciding with the implementation of the National Law of Environmental Protection. It has also coincided with a shift in aid programming, away from emergency relief and refugee assistance, toward "technical cooperation involving knowledge transfer and capacity building" (UNDP 1997, 9).

Like many aid programmes, the institutional structures and decision responsibilities for EIA capacity-building initiatives have been complex. The most typical structure has been for a multilateral or bilateral development aid agency, in consultation with host government officials, to set broad aid programme parameters and commit funds to the programme. The agency then invites NGOs, consulting firms or academic institutes to prepare funding proposals which 'fill in the details' of proposed activities and, if successful, to carry out

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[51] In 1988 the East-West Center at University of Hawaii sponsored a two month study visit by two Vietnamese scientists to learn and develop knowledge about EIA.

implementation. A second, slightly different, structure is used by non-governmental agencies. Through prior work in the country, an NGO will identify a specific EIA capacity 'gap', design a programme addressing these gaps, and then solicit the necessary funds from existing multilateral or bilateral aid programmes.

Table 3.6: Development Aid Agency EIA Capacity-Building Activities in Viet Nam

1992:	•UNEP funds three EIA shortcourses organised by the CRES "Environmental Impact Assessment Research Unit".
1993:	•East-West Center (U of Hawaii) workshop for Vietnamese EIA trainers on "Implementing Environmental Impact Assessment in Vietnam". •USAID/WRI/JICA regional workshop on "Strengthening EIA in Asia": participants from 10 Asian countries (including one from Viet Nam). •UNEP/Hanns Seidel Foundation training course on EIA techniques conducted under the Viet Nam Government's Science and Technology programme.
1994:	•IDRC funds a year-long course on environmental planning and management (with a significant unit on EIA). •WHO conducts EIA shortcourse, including health impact assessment. •SIDA/IUCN "Strengthening of MOSTE" project initiated (EIA capacity-building one component).
1995:	•ADB "Viet Nam: strengthening environmental planning and EIA capabilities" project initiated. •UNDP's Capacity 21 "Strengthening national capacities to integrate the environment into investment decisions" project initiated (EIA capacity-building one component). •CIDA-funded "Policy Implementation Assistance Project" (PIAP) initiated (EIA capacity-building one component).
1996:	•CIDA-funded "Vietnam-Canada Environment Project" (VCEP) project initiated (EIA capacity-building one component).
1997:	•European Union project on "Capacity Building for Environmental Management in Vietnam" commences. •UNEP/IUCN initiates "EIA Capacity Building-the UNEP EIA Manual Trial in Vietnam" project. •Netherlands Embassy announces new EIA capacity-building project focussing on technical training in EIA.
1998:	•UNDP Capacity 21 project (Phase II) initiated: three demonstration projects feature areawide environmental assessment.

(Sources: IDRC 1993a, ADB 1994a, Can 1994b, ESCAP Environment News 1994, IDRC/SRV 1995, RCG/Hagler-Bailly 1995, SRV/UNDP 1995a, Smith and van der Wansem 1995, Welles 1995, ESSA/SNC Lavalin 1996b, Hagler-Bailly 1996, EU Project 1997a, UNEP 1997, Vietnam News 1997)

Within development aid programmes it is often difficult to trace responsibility for specific design details, and EIA capacity-building programmes are no exception to this. Most typically, EIA capacity-building programmes result from of a combination of design influences. Funding agencies impose their own programme parameters, host country governments express their own development priorities, and influential host country individuals are often of key importance in designing aid programmes. At the implementation stage, implementing agencies often stamp their own priorities upon aid programmes, changes to original programme designs are common, priorities unforeseen at the programme design stage result in programme changes, and 'implementation gaps' (i.e. differences between what is intended at what emerges during implementation) frequently emerge in aid programmes due to institutional, personnel or technical limitations (Gow and Morss 1988).

Over the six years following the implementation of the NLEP, numerous EIA capacity-building projects were designed and funded by bilateral, multilateral and non-governmental development aid agencies, and are profiled briefly in the following pages. In the first few months following the implementation of the NLEP, aid agencies committed so much funding and initiated so many programmes that the absorptive capacity of NEA and MOSTE was seriously tested[52]. However, this problem has since been reduced through increased staffing levels within MOSTE/NEA, and better awareness on the part of aid agencies.

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[52]One key informant remarked in 1994 that "for the last 1 1/2 years MOSTE has been completely bogged down with work involving donors" (Informant #18 1994), while another suggested that "aid has been initiated too fast, and with too hard a push, with the result that the Vietnamese are often unable to deliver when implementation of programmes begins" (Informant #3 1994). Difficulties in absorbing aid have been recognised across most other sectors in Viet Nam, where the problem has not been in attracting aid funding but in using the funds dedicated. For example, In the 1993-1995 period rapid inflows of development aid strained the Vietnamese government's capacity, and although donors pledged over $2 billion in each year, disbursements averaged only $500 million per annum (UNDP 1996 in Cook 1997, 43).

For the purposes of the following discussion, aid-funded EIA capacity-building initiatives in Viet Nam will be classified by the period in which they were initiated, either the "formalisation phase" (1990-1994), or the "implementation and capacity-building phase" (1995-present). Over these phases there has been strong representation from multilateral and bilateral aid programmes, and an increasing participation from international NGOs. Each of the programmes contain a mix of institutional strengthening, regulatory and policy reforms, technology transfer, equipment provision, research, and human resource development components.

3.4.1 EIA capacity-building programmes: Formalisation phase

3.4.1.1 International Development Research Centre (IDRC)

During the formalisation phase, development aid-funded EIA capacity-building initiatives began to emerge but were mainly limited to short training courses or periodic workshops. One exception to this was a one year environmental planning and management course funded by the Canadian International Development Research Centre (IDRC) as part of its Viet Nam/Canada Sustainable Economic Development (VISED) project. Trainees were selected from a variety of government institutes at both the central and provincial levels. Training was conducted by Vietnamese and foreign environmental experts at University of Hanoi's Centre for Natural Resources and Environmental Studies (CRES), and featured a comprehensive EIA, environmental planning and management, and ecology curriculum. Environmental and social impact assessment theory and practical case studies comprised

approximately half of the overall training activities (IDRC 1993a). As a training course, EIA capacity-building activities did not go beyond human resource development.

3.4.2 EIA Capacity-Building Programmes: Implementation/Capacity-Building Phase

3.4.2.1 Asian Development Bank (ADB)

In 1995, two development assistance projects focusing on EIA capacity-building were initiated in Viet Nam. The first of these, entitled "*Viet Nam: Strengthening Environmental Planning and EIA Capability*", was funded by the Asian Development Bank and carried out by Hagler-Bailly Ltd., an American consulting firm. During the one-year duration of the project, a series of short-term foreign consultants worked within MOSTE/NEA to strengthen EIA capacity through a variety of regulatory, institutional, human resource development and technology transfer means. Regulatory capacity was strengthened through a review and refinement of existing EIA regulations and guidelines, and the creation of draft EIA sectoral guidelines for cement plants, thermal power plants, road/highway projects, and industrial development zones/estates. Institutionally, the project conducted an analysis of existing EIA implementation capacity and future capacity-building needs in Viet Nam for a variety of institutional sectors (i.e. NEA, EIA practitioners, local and provincial environmental offices, and environmental offices of line agencies). Human resource development was carried out through the provision of EIA short courses for central and local government officials, and, with Vietnamese counterparts, the preparation of four EIA project case studies. Technology transfer included the selection, procurement and installation of a computerised "EIA expert system" (ADB 1994a, RCG/Hagler-Bailly 1995, Hagler-Bailly 1996).

3.4.2.2 United Nations Development Programme (UNDP: Phase I)

A few months after the ADB project began, the United Nations Development Programme (UNDP) initiated a two-year project entitled "*Strengthening National Capacities to Integrate the Environment Into Investment Decisions*". The project resulted from the UNDP's dual observations that there were "limitations (to) project-specific EIA as an instrument for incorporating environmental management into investments", and that in Viet Nam, "most investments are too small to be subjected to a formal EIA" (SRV/UNDP 1995a, 50). As these observations and the title suggest, the project was a broad effort to instill consideration of environmental factors into all levels of development planning and decision-making processes in Viet Nam, particularly those affecting development proposals that were too small or not in project form and thus escaped the EIA process. EIA capacity-building was but one portion of overall project activities, reflecting the UNDP's observation that in Viet Nam there is an "over emphasis on EIA as a tool for managing the environment, and a lack of knowledge of other available tools which should complement EIA" (SRV/UNDP 1995, 15). Unlike previous EIA capacity-building projects, the Ministry of Planning and Investment (MPI) was the prime institutional focus due to its central role in Viet Nam's investment decision-making and development planning processes.

Initially, EIA training and capacity-building activities were designed to extend to virtually all levels, including central, provincial, district and even village levels (UNDP 1993a, SRV/UNDP 1995), however, early stages of the project proceeded slowly:

> "Fully six months of the project was spent getting across what EIA was, suggesting how EIA related to MPI's activities, and establishing a beachhead

> from which other forms of EIA such as strategic, areawide and cumulative assessment could be broached" (Informant #47 1998).

As a result, early in the implementation phase this ambitious project was scaled back and most EIA capacity-building activities were confined to the central level and to the Ministry of Planning and Investment. Two of the main successes of the project were to raise environmental awareness within the Ministry, and to stimulate MPI to establish their first provisional EIA guidelines, for use by and within MPI prior to formal MOSTE-led EIA scrutiny (Informant #47 1998). Thus, the project was successful in initiating procedures which will move environmental considerations 'upstream' in the project design and decision-making processes of MPI (Informant #62 1998).

3.4.2.3 Canadian International Development Agency (CIDA-PIAP)

Late in 1995, the Canadian International Development Agency (CIDA) initiated the CDN$8 million four-year Policy Implementation Assistance Project (PIAP). One of three main objectives of the project was to assist the Ministry of Science, Technology and Environment to 'implement environmental policies'. However, due to the number of capacity-building projects already slated for MOSTE, PIAP project officials changed the institutional focus of the project during the project inception mission, and after consultations with a wide range of potential partner ministries the Ministry of Transport and Communications (MTC) was selected (Informant #49 1998, Informant #50 1998).

The main objective of the environmental component of the project has been to assist MTC to implement Article 5 of the Law on Environmental Protection, whereby "each

sectoral ministry should develop its own management system in environment" (Informant #49 1998). The project has resulted in a number of capacity-building initiatives: training activities on the EIA of roads (see Plate 3.2); development of an EIA training manual for the transport sector; the stimulation of MTC to develop their own environmental regulations and sectoral EIA "standards", and; the stimulation of MTC to create an environmental management unit (developed as an environmental "quality control" point for all projects submitted to MOSTE for EIA appraisal). Training courses carried out by the PIAP project have stressed that EIA activities should be initiated at the project design phase rather than the project announcement phase (Informant #50 1998).

Plate 3.2: PIAP Capacity-Building Workshop/Field Exercises (Photos: Doberstein 1998)

3.4.2.4 Canadian International Development Agency (CIDA-VCEP)

In 1996, a CDN$10 million CIDA-funded project entitled 'Vietnam-Canada Environment Project' was initiated and EIA capacity building was one of its main priorities. The overall goals of the EIA activities under VCEP were to: "strengthen the capability of Vietnamese agencies and institutions to administer and manage the EIA process, as well as to conduct environmental impact assessments", and to; "provide examples of how environmental considerations can be better integrated in development planning activities" (ESSA/SNC Lavalin 1996a, 2-45). Institutionally, project activities were split between the central government NEA and a series of provincial DOSTEs.

Project activities included regulatory, institutional, technology transfer and human resource development components. The project attempted to build upon the ADB's project's regulatory activities by developing additional procedural and technical EIA guidelines (including sectoral EIA guidelines), most notably for Viet Nam's burgeoning hydropower sector[53]. Institutionally, the VCEP project attempted to establish or strengthen EIA administrative units at both central and provincial levels, and provided direct technical support to EIA review panels, NEA and DOSTEs, particularly for the preparation of new EIA capacity-building proposals. Technology transfer was carried out after an assessment of information management needs within NEA/MOSTE, and the project was responsible for designing and providing information resources and EIA information management systems.

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[53] The request for such guidelines came from the Vietnamese government which initially suggested the VCEP project prepare hydropower guidelines specific to the proposed Son La hydro scheme (see Box 3.2). However, CIDA would only agree to the preparation of "generic" guidelines, recognising that guidelines specific to the Son La scheme could provide a convenient means of deflecting criticism of the project away from the Vietnamese proponents and onto Canadian aid

Human resource development was carried out through the development and provision of training courses for NEA, DOSTE and line Ministry staff, as well as staff from consultancies, private industries and universities (ESSA/SNC Lavalin 1996b).

3.4.2.5 European Union (EU)

Three new EIA capacity-building projects were initiated by development assistance agencies in 1997. The first, entitled "*Capacity Building for Environmental Management in Vietnam*", was funded by the European Union (EU), and was carried out by faculty and staff from the Free University of Brussels, The Viet Nam National Center for Science and Technology, and the National University of Hanoi. The overall project goal was to "support the improvement of environmental and natural resources management" in Viet Nam through capacity building aimed at developing "a scientifically reliable basis for EIA in Vietnam" (EU Project Brief 1997), particularly through GIS and strategic environmental assessment applications (see Plate 3.3)

Institutionally, the project focused mainly on building capacity in Vietnamese university institutes (e.g. the project assists the National University of Hanoi's Faculty of Environmental Sciences through curriculum development, scholarship provision and overseas exchanges). Some project activities (e.g. preparation of an EIA manual, and regional- and strategic environmental assessments for Halong Bay/Quang Ninh province) have also resulted in institutional links with central and provincial government agencies such as NEA and provincial DOSTEs. The project selected three specific EIA sectors for

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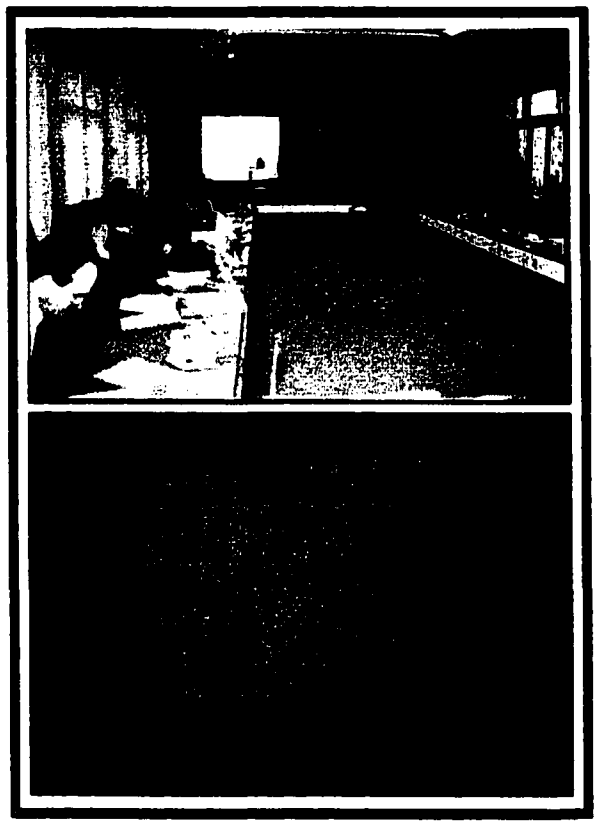
programmes (Informant #63 1998).

particular consideration: tourism; hydropower and; urban development. Thus, many capacity-building activities revolved around these themes.

Plate 3.3: European Union Project - Workshop and Strategic Assessment Exercise

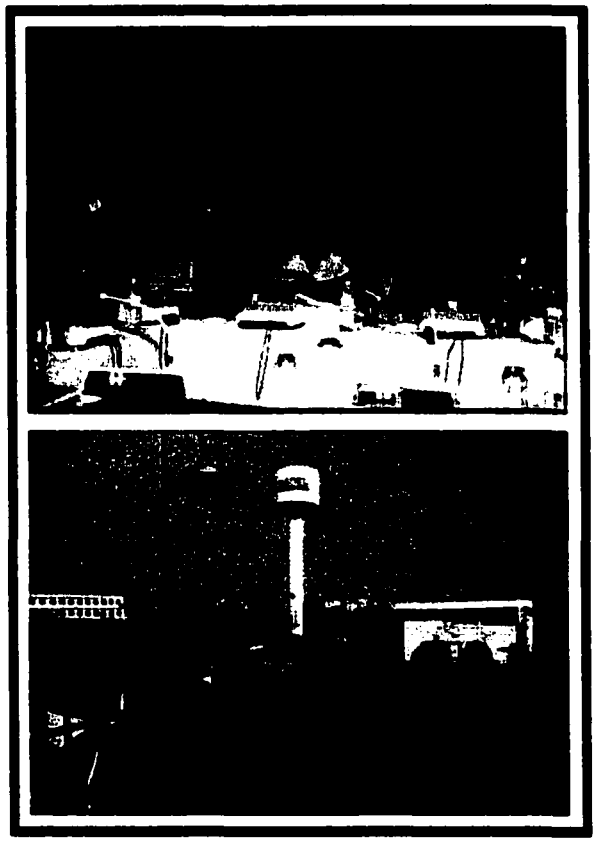


3.4.2.6 United Nations Environment Programme/International Union for the Conservation of Nature (UNEP-IUCN)

The second EIA capacity building project initiated in 1997, entitled "*EIA Capacity Building-the UNEP EIA Manual Trial in Vietnam Project*", was conducted jointly by the United Nations Environment Programme (UNEP) and the Viet Nam chapter of the International Union for the Conservation of Nature (IUCN). The project was designed as a series of workshops and field visits (see Plate 3.4), the first of which was attended by Vietnamese central and provincial government officials, Vietnamese and foreign EIA

consultants, and EIA professionals from the wider Asian region (UNEP/IUCN 1997, Informant #54 1998).

Plate 3.4: UNEP Project Workshop and Field Visit - Electronics Plant



(Photos: Doberstein 1997)

The main goal of the six-month project project was the "Vietnamisation", distribution and testing of UNEP's 700+ page generic EIA training manual (UNEP 1996a, UNEP 1996b, UNEP-IUCN 1997). This manual, prepared as a result of recommendations made at a 1994 Environmental Assessment summit, was designed as a modifiable "tool for trainers, to assist them in preparing training courses targeted for specific groups and relevant to existing political, social and economic climates and development priorities in (Viet Nam)" (UNEP

1996a). Project activities included carrying out an EIA training needs assessment, funding the development of Viet Nam-specific EIA case studies and training materials, translating the training manual into Vietnamese, and distributing approximately 150 copies of the translated manual for testing and use by EIA trainers in Viet Nam (Informant #54 1998). As well, a series of workshops held over the lifetime of the project facilitated general discussion about areas of reform for future versions of the training manual.

3.4.2.7 Netherlands Embassy

The third EIA capacity building initiative announced in 1997, entitled the "*Environmental Impact Assessment Capability Strengthening Project (EIA-CSP)*", was funded by the Netherlands Embassy. The six-month project concentrated solely on human resource development, paying particular attention to training and strengthening activities related to technical capacities of EIA preparers and appraisal committees (Informant #40 1998, Informant #41 1998).

Plate 3.5: Netherlands Embassy Project - Inception Workshop

(Photos: Doberstein 1998)

The project carried out these aims through technical training courses, and the preparation of "hands-on" EIA case studies of an industrial park and an urban solid waste landfill (Vietnam News 1997). The project was housed physically within the National Environmental Agency and staffed through a combination of short term foreign consultants and longer term Vietnamese consultants seconded from their usual positions within NEA.

3.4.2.8 United Nations Development Programme (UNDP: Phase II)

A major environmental capacity-building project entitled "*Capacity 21: Phase II*" was announced in late 1997 and began operations in May 1998. The project was funded jointly by the UNDP and Swiss Agency for Development Cooperation, and was the second phase of UNDP's environmental capacity-building work with the Ministry of Planning and Investment. Although EIA was not a specific focus of the project, it was nonetheless used "as a point of entry into the topic of the environment as an investment decision-making criteria" (Informant # 47 1998).

The main aim of the three-year project was to "strengthen Central Government capacity to incorporate environmental considerations into its policy and decision-making" (UNDP 1999), mainly through human resource development, field research and technology transfer. Whereas Phase I of the project concentrated on raising environmental awareness among MPI officials, Phase II was designed to demonstrate the benefits of areawide environmental assessment and planning for three pilot projects: an industrial zone on the edge of Hanoi, a silk-growing region in Lam Dong province, and rapidly developing peri-urban areas of Halong City. In each case, areawide environmental assessment principles will

be applied to existing and proposed developments in order to demonstrate benefits to MPI staff, develop training modules, and generate suggestions for consideration by government decision-makers (UNDP 1999).

3.4.3 Future EIA Capacity Building Initiatives

From this brief summary of EIA capacity-building projects in Viet Nam it is clear that much effort and aid agency funding has been directed towards strengthening the environmental impact assessment process in Viet Nam. Additional aid-funded EIA capacity-building initiatives were rumoured to be in the planning and project development stage in 1998 (Informant #41 1998) and it is almost certain that this trend will continue. However, what has been missing, and what is needed before future initiatives get underway, is a detailed analysis of programme activities already undertaken in Viet Nam. Through such an analysis, decisions can be made by aid agencies about the coherence of future efforts, and about priorities for future EIA capacity-building programmes.

Each of the programmes profiled in sections 3.4.1 and 3.4.2 represent a single EIA capacity-building case study. As outlined previously, the aim of the research undertaken for this dissertation is to compare and contrast the activities of these programmes in Viet Nam in order to discern the model(s) of EIA being promoted by development aid agencies. The following chapter will present the results of analyses undertaken for each case study, and of cross-case comparisons.

Chapter Four

CHAPTER FOUR - CASE STUDIES: EIA CAPACITY BUILDING PROGRAMMES IN VIET NAM

4.1 Introduction

This chapter presents results from the analysis of three main bodies of data gathered during the course of field research: 1) key informant interviews; 2) documents issued by development aid agency EIA capacity-building programmes, and; 3) participant observation of EIA capacity-building workshops. A total of sixteen documents issued by nine separate EIA capacity-building programmes were subjected to detailed content analysis. Results were displayed for further analysis in two formats, comprising both 'multiple' and 'collapsed' criteria[54](see Tables 4.1 and 4.2), and results were selected for discussion from these figures. Research results indicated over the following pages are organised and presented using both the analytical themes identified in section 2.5, and those which emerged during the analysis of interviews, participant observations and secondary data.

[54] Table 4.1 displays the 'multiple' criteria content analysis for each of the seven major themes analysed. For example, in examining the 'Role of EIA', two separate Technical model criteria and three Planning model criteria were coded. By contrast, the 'collapsed' criteria of Table 4.2 is a simpler version which indicates simply whether Technical model or Planning model criteria are present for each of the seven themes. See the Research Methods section for additional detail on content analysis protocols.

Table 4.1 Content Analysis of Aid Agency Documents: Multiple Criteria

CAPACITY-BUILDING PROGRAMME--> (document analysed)-->	ADB (final rpt)	ADB (inception)	EU (workshop)	EU (SEA)	IDRC (curriculum)	NETH.Emb. (inception)	NETH (fi
THEMES MENTIONED IN DOCUMENT	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Perce wit then
Role of EIA							
Scientific Input to Planning/Technical Tool	19% (6)		15% (2)	11% (2)	24% (4)	27% (3)	18%
Examine Biophysical Impacts	**71% (22)**	**92% (11)**	23% (3)	28% (5)	24% (4)	27% (3)	**73%**
Consultative/Participatory Process	3% (1)						
Political/Policy Planning Process	3% (1)		**31% (4)**		6% (1)		5%
Examine all impacts (biophysical, social, economic)	3% (1)	8% (1)	**31% (4)**	**61% (11)**	**47% (8)**	**45% (5)**	5%
Scale of Assessment							
Projects	**88% (35)**	**100% (6)**	16% (5)	7% (2)	**50% (8)**	**57% (8)**	**60%**
Plans/Programmes	3% (1)		19% (6)	25% (7)	25% (4)		9%
Areas/Regions	8% (3)		13% (4)	25% (7)	25% (4)	7% (1)	16%
Cumulative Effects	3% (1)		3% (1)	7% (2)		14% (2)	7%
Policies			**48% (15)**	**36% (10)**		21% (3)	9%
Knowledge Base							
Scientific/objective	**71% (5)**	**60% (3)**	**100% (2)**	**100% (3)**	**62% (8)**	**60% (3)**	18%
Quantitative	14% (1)	40% (2)			15% (2)	40% (2)	**82%**
Subjective (values, opinions)	14% (1)				8% (1)		
Multiple perspectives (scientific, indigenous knowledge, etc.)					15% (2)		
Certainty of Knowledge							
Accurate Prediction	25% (2)	**75% (3)**	**100% (2)**	20% (1)	**45% (5)**	10% (1)	
Selection of 'best' alternative	**63% (5)**				9% (1)	**60% (6)**	**88%**
Uncertainty	13% (1)	25% (1)		**60% (3)**	9% (1)	30% (3)	13%
Precautionary or adaptive planning				20% (1)	36% (4)		
Timing and Length of EIA							
Discrete (one-shot) study at early stages	33% (2)	**100% (1)**					
Long Term, Multi-stage or Continuous Process	**67% (4)**		**100% (6)**		**100% (1)**	**100% (3)**	**100**
Public Involvement (Type and Timing)							
Education/training, persuasion or consultation	32% (6)		25% (1)	**50% (1)**	33% (2)		40%
At the EIA review/appraisal stage	**58% (11)**						
Participation,co-decisionmaking,del.authority, self-determination	11% (2)		**75% (3)**	**50% (1)**	**67% (4)**		**60%**
Throughout the EIA process							
Planning Theory							
Rat. Compr. planning (technocratic,'best alternative', linear)	**100% (7)**	**100% (1)**	40% (2)	**100% (5)**	**75% (3)**	**100% (3)**	**100**
Mixed scanning (EIA guided by larger planning goals)			**60% (3)**				
Transactive planning (EIA team meeting with affected peoples)					25% (1)		
Advocacy planning (assists people to influence decisionmaking)							
SUBJECTIVE EVALUATION =	1	1	3	3	3	2	

1= Strong Technical Model
2= Moderate Technical Model
3= Mixed Planning & Technical
4= Moderate Planning Model
5= Strong Planning Model

*NOTE: Bold figures indicate the most frequently mentioned theme within a category (e.g."88% of references to the "Appropriate Scale At Which EIA Should Operate" mentioned "Projects").

1.Emb. eption)	NETH.Emb. (final)	CIDA(PIAP) (casestudy)	CIDA(PIAP) (workshop)	UNDP-1 (multilevel)	UNDP-1 (sectoral)	UNDP-2 (inception)	UNEP-IUCN (manual)	UNEP-IUCN (workshop)	CIDA(VCEP) (hydro)	CIDA(VCEP) (inception)
entage ithin me (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)
% (3)	18% (4)	25% (2)				6% (4)	9% (12)		16% (14)	
% (3)	73% (16)	38% (3)	33% (2)	20% (3)	33% (6)	78% (49)	51% (68)	75% (6)	65% (58)	83% (10)
				13% (2)		2% (1)	1% (1)		1% (1)	
	5% (1)			33% (5)	28% (5)	3% (2)	6% (8)	13% (1)		
% (5)	5% (1)	38% (3)	67% (4)	33% (5)	39% (7)	11% (7)	34% (45)	13% (1)	18% (16)	17% (2)
% (8)	60% (27)	100% (15)	100% (5)	5% (1)	20% (5)	23% (10)	60% (85)	20% (1)	86% (32)	71% (5)
	9% (4)			37% (7)	40% (10)	12% (5)	11% (15)	20% (1)		
% (1)	16% (7)			32% (6)	8% (2)	35% (15)	7% (10)		14% (5)	14% (1)
% (2)	7% (3)	9% (4)		5% (1)	8% (2)	12% (5)	11% (15)			14% (1)
% (3)	9% (4)			21% (4)	24% (6)	19% (8)	12% (17)	60% (3)		
% (3)	18% (2)	60% (3)	67% (2)		50% (2)		31% (20)	67% (2)	58% (19)	
% (2)	82% (9)		33% (1)		50% (2)		18% (12)		24% (8)	
		20% (1)					25% (16)		12% (4)	
		20% (1)					26% (17)	33% (1)	6% (2)	
% (1)			50% (1)				23% (15)	100% (1)	48% (12)	75% (3)
% (6)	86% (7)	100% (1)	50% (1)		67% (2)	100% (3)	38% (24)		40% (10)	
% (3)	13% (1)				33% (1)		23% (15)		12% (3)	25% (1)
				100% (1)			16% (10)			
		100% (2)							42% (5)	
% (3)	100% (3)		100% (3)	100% (6)	100% (8)	100% (3)	100% (19)		58% (7)	
	40% (2)		50% (1)	50% (1)	29% (2)	63% (10)	46% (33)	50% (1)	88% (15)	50% (1)
							6% (4)		12% (2)	
	60% (3)		50% (1)	50% (1)	71% (5)	31% (5)	31% (22)	50% (1)		50% (1)
						6% (1)	17% (12)			
% (3)	100% (7)	100% (2)	100% (1)	40% (2)	25% (2)	64% (7)	71% (17)		82% (14)	100% (2)
				40% (2)	38% (3)	18% (2)	8% (2)		6% (1)	
				20% (1)	25% (2)	18% (2)	17% (4)		12% (2)	
					13% (1)		4% (1)			
2	2	2	2	4	4	3	4	3	2	2

Table 4.2 Content Analysis of Aid Agency Documents: Collapsed Criteria

CAPACITY-BUILDING PROGRAMME --> / Document Analysed-->	ADB (final rpt)	ADB (inception)	EU (workshop)	EU (SEA)	IDRC (curriculum)	NETHER Embassy (inception
	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentag within theme (n
THEMES MENTIONED IN DOCUMENT						
Role of EIA						
Technical Model Themes (scientific input, technical tool, biophysical impacts	**90% (28)**	**92% (11)**	38% (5)	39% (7)	47% (8)	**55% (6)**
Planning Model Themes (consultative/participatory/political process, all impacts)	10% (3)	8% (1)	**62% (8)**	**61% (11)**	**53% (9)**	45% (5)
Scale of Assessment						
Technical Model Themes (Projects)	**90% (36)**	**100% (6)**	35% (11)	32% (9)	**50% (8)**	**57% (8)**
Planning Model Themes (plans, Programmes, regions, cumulative effects, policies	10% (4)		**65% (20)**	**68% (19)**	**50% (8)**	43% (6)
Knowledge Base						
Technical Model Themes (scientific, objective, quantitative)	**86% (6)**	**100% (5)**	**100% (2)**	**100% (3)**	**77% (10)**	**100% (5)**
Planning Model Themes (multiple knowledge forms, subjective)	14% (1)				23% (3)	
Certainty of Knowledge						
Technical Model Themes (predictive accuracy, selection of 'best' alternative)	**88% (7)**	**75% (3)**	**100% (2)**	20% (1)	**55% (6)**	**70% (7)**
Planning Model Themes (uncertainty, precautionary/adaptive planning)	13% (1)	25% (1)		**80% (4)**	45% (5)	30% (3)
Timing and Length of EIA						
Technical Model Themes ('one-shot' studies)	33% (2)	**100% (1)**				
Planning Model Themes (long-term, multistage or continuous process)	**67% (4)**		**100% (6)**		**100% (1)**	**100% (3)**
Public Involvement (Type and Timing)						
Technical Model Themes (education<-->consultation, at EIA review stage)	**89% (17)**		25% (1)	**50% (1)**	33% (2)	
Planning Model Themes (participation<->self-determine,throughout EIA process)	12% (2)		**75% (3)**	**50% (1)**	**67% (4)**	
Planning Theory						
Technical Model Themes (rational *comprehensive* planning theory)	**100% (7)**	**100% (1)**	40% (2)	**100% (5)**	**75% (3)**	**100% (3)**
Planning Model Themes(theory mix:rational,mixed scanning,transactive, advocacy			**60% (3)**		25% (1)	
SUBJECTIVE EVALUATION =	**1**	**1**	**3**	**3**	**3**	**2**

1= Strong Technical Model
2= Moderate Technical Model
3= Mixed Planning & Technical
4= Moderate Planning Model
5= Strong Planning Model

*NOTE: Bold figures indicate the most frequently mentioned model themes within a particular category (e.g. *89% of all references to the "appropriate forms of Public Involvement" mentioned themes associated with a Technical Model: i.e. limited public involvement in the form of education, persuasion or consultation, or designed to occur only at the EIA review/appraisal stage).

	NETHER. Embassy (inception)	NETHER. Embassy (final)	CIDA(PIAP) (case study)	CIDA(PIAP) (workshop)	UNDP-1 (multilevel)	UNDP-1 (sectoral)	UNDP-2 (inception)	UNEP/ IUCN (manual)	UNEP/ IUCN (workshop)	CIDA(VCEP) (hydro)	CIDA(VCEP) (inception)
	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)	Percentage within theme (n)
	55% (6)	91% (20)	63% (5)	33% (2)	20% (3)	33% (6)	84% (53)	60% (80)	75% (6)	81% (72)	83% (10)
	45% (5)	9% (2)	38% (3)	67% (4)	80% (12)	67% (12)	16% (10)	40% (54)	25% (2)	19% (17)	17% (2)
	57% (8)	60% (27)	100% (15)	100% (5)	42% (8)	60% (15)	35% (15)	70% (100)	40% (2)	86% (32)	71% (5)
	43% (6)	40% (18)			58% (11)	40% (10)	65% (28)	30% (42)	60% (3)	14% (5)	29% (2)
	100% (5)	100% (11)	60% (3)	100% (3)		100% (4)		49% (32)	67% (2)	82% (27)	
			40% (2)					51% (33)	33% (1)	18% (6)	
	70% (7)	88% (7)		100% (2)		67% (2)	100% (3)	61% (39)	100% (1)	88% (22)	75% (3)
	30% (3)	13% (1)	100% (1)		100% (1)	33% (1)		39% (25)		12% (3)	25% (1)
			100% (2)							42% (5)	
	100% (3)	100% (3)		100% (3)	100% (6)	100% (8)	100% (3)	100% (19)		58% (7)	
		60% (3)		50% (1)	50% (1)	29% (2)	63% (10)	52% (37)	50% (1)	88% (15)	50% (1)
		40% (2)		50% (1)	50% (1)	71% (5)	38% (6)	48% (34)	50% (1)	12% (2)	50% (1)
	100% (3)	100% (7)	100% (2)	100% (1)	40% (2)	25% (2)	64% (7)	71% (17)		82% (14)	100% (2)
					60% (3)	75% (6)	36% (4)	29% (7)		18% (3)	
	2	2	2	2	4	4	3	4	3	2	2

4.2 Cross-Case Analyses: What Form of EIA is Promoted by Capacity-Building Programmes in Viet Nam?

4.2.1 Mixed Messages in the Recommended Role for EIA in Development Planning

In general, there was a wide variation in EIA capacity-building programming addressing the issue of the role EIA should play in the Vietnamese planning process, resulting in a mixed message being delivered to Vietnamese counterparts. At one extreme, the Asian Development Bank project indicated EIA should function predominantly in a role conforming to the Technical Model of EIA: EIA should be used as a 'technical tool' to generate scientific information about biophysical impacts, and then this information should be fed into the existing development planning process to sit alongside technical and economic feasibility studies (Hagler-Bailly 1996). In one ADB project document, over 90% of all references to the appropriate role for EIA in Viet Nam identified technical model attributes such as the identification of biophysical impacts. At the other extreme, the UNDP Capacity 21 (Phase I) project indicated the role of EIA should largely follow Planning Model tenets: EIA should act as a mechanism for increased public involvement, to contribute to and reform political processes in planning, and to ensure that all potential impacts (i.e. including biophysical, social and economic) are examined. In the two UNDP Capacity 21 (Phase I) project documents analysed (MPI/UNDP 1997a, MPI/UNDP 1997b), 80% and 67% of references to the appropriate role of EIA in Viet Nam conformed to attributes of the Planning Model. In contrast, such attributes were mentioned only 8% and 10% of the time for the two ADB documents analysed.

Most commonly, capacity-building programmes supported the idea that EIA should concentrate on biophysical, rather than social[55] or economic impacts of development proposals. As outlined in Box 4.1, the CIDA-funded Viet Nam Canada Environmental Project generated sectoral EIA guidelines for hydropower projects in Viet Nam (ESSA/SNC Lavalin 1997). The resulting document was systematically weak in promoting the assessment of non-biophysical impacts (such as community cohesion, individual livelihoods or ethnic minority traditions) in hydropower EIA studies: biophysical impacts were mentioned 5 times more frequently than non-biophysical impacts. Although many future hydropower projects will likely be located in uplands regions of Viet Nam, no mention was made of the special need to assess impacts on the ethnic minorities who reside in such regions. Such a bias toward the promotion of limited biophysical impact assessment was common to over half (n=9 of 16) of the EIA capacity-building project documents analysed (see Table 4.1). This observation provides further support for the contention that many aid agencies promoted EIA as having a predominantly Technical Model role.

4.2.2 Reliance on Project-Level EIA, but Strategic-Level Interest Emerging

Although some capacity-building programmes in Viet Nam have promoted project-specific EIA (e.g. two PIAP programme documents refer exclusively to project-level assessment, and in two Asian Development Bank documents, 100% and 90% of references to the appropriate scale of assessment indicate projects), many programmes have shown an emerging interest in capacity-building to conduct "higher order" strategic assessment (i.e. plans, programmes, areas/regions, cumulative effects and policies). In an analysis of 16

[55] The assessment of social impacts, under a Planning Model, is understood to include a wide range of themes including health impacts, differential impacts on men and women (gender analysis), impacts on community structures and cohesion,

documents describing EIA capacity-building programmes, project-level EIA was mentioned more frequently (60%) than strategic levels of assessment (40%). However, one EIA capacity-building project sponsored by the EU promoted strategic environmental assessment as one of its main project objectives (EU Project Brief 1997a, Nierynck 1998). When SEA has been included in capacity-building programming it has generally been addressed as a complementary, not alternative, approach to EIA. This observation is seen as a confirmation that some capacity-building programmes in Viet Nam are promoting EIA as applicable to all levels, from the policy level downwards through programmes, regions and cumulative effects assessment and to the individual project level.

In some cases, there has been an explicit recognition by capacity-building programmes that their choice of Viet Nam counterpart has constrained development aid agency abilities to promote higher-order EIA of plans, programmes and policies. The PIAP project, for example, works within the Ministry of Transport and Communications (MTC) where there is currently no tradition of or "willingness" for policy-level assessment (Informant #49 1998). The MTC works within a standard framework of project-by-project planning and operations, and thus, for reasons of expediency and efficiency, the PIAP project adopted the project level for EIA capacity-building activities (see Box 4.2). Over the longer term however, successes in implementing EIA at the project-level are seen by PIAP staff as providing an avenue for further reform, and therefore, strategic assessment is relegated to the status of a longer-term EIA capacity-building goal (Informant #49 1998).

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employment/ livelihoods and access to basic necessities.

Box 4.1 Capacity-Building Actions: EIA Guidelines for Hydropower Projects

Viet Nam has a large number of medium and large-scale hydro schemes scheduled for implementation by 2010, the largest of which is the Son La hydro scheme in Northern Viet Nam. The main dam will be located along the Da river watershed upstream from the furthest extent of the Hoa Binh reservoir. The scheme will have up to 3600 MW of generating capacity, or approximately twice that of Hoa Binh dam and is expected to cost over $3.5 billion USD (Viet Nam News Feb. 24, 1998). When complete, the dam will produce approximately half of Viet Nam's total hydroelectric power. It has been estimated that between 92,000 and 130,000 ethnic minority and Kinh majority peoples will be displaced by the project, mainly due to the formation of a 440 sq. km reservoir (Hirsch 1992, 25; Viet Nam News Feb. 24, 1998).

Because the project will likely be funded by international aid agencies, EIA studies conducted for the project must be of an internationally-accepted standard. In 1997 the Vietnamese government requested two EIA capacity-building programmes (the CIDA-VCEP and EU programmes) prepare generic guidelines for hydro EIAs. These guidelines would then be available for consultation by the Vietnamese government and by impact assessment consultants carrying out the Son La EIA. However, it is questionable whether these guidelines alone will ensure a high-quality EIA study is carried out for the Son La scheme. A review of draft guidelines (ESSA/SNC Lavalin 1997) produced under one of the capacity building programmes, the CIDA-funded Viet Nam Canada Environment Programme, revealed the following weaknesses:

A) Ethnic minorities, although the dominant group in most uplands hydropower sites, did not merit special mention in the EIA guidelines.
B) Indigenous knowledge, although a potentially useful addition to EIA studies (and knowledge) in uplands regions, was a minor component of suggested environmental data sources.
C) Guidelines on how to manage the public involvement component of the EIA process were lacking. No suggestions were given as to how to involve ethnic minorities (who may be illiterate in the Vietnamese language and who may not have access to locations where public involvement is solicited), nor how to structure a significant and well-timed public involvement process.

Overall, the guidelines were strongest in suggesting how environmental components of an impact assessment were to be carried out and weakest in suggesting how social impacts were to be assessed. It should be noted these guidelines were to be modified in subsequent drafts, and thus, such weaknesses may be reduced or eliminated.

However, the quality of such EIA guidelines may be of secondary importance to the role currently ascribed to EIA within Viet Nam's political and development planning process. Such guidelines would likely serve a limited role, mitigating only the worst impacts of the proposed project rather than fundamentally challenging the need for it. One senior Hanoi-based expatriate researcher linked to an environmental research centre was of the opinion the dam "will go ahead" regardless of the quality or outcome of EIA studies yet to be undertaken (Key Informant #3 1998). The best proof of this, according to the researcher, is the Vietnamese Government's ongoing efforts to relocate the provincial capital Lai Chau to Dien Bien: the former will be flooded by the Son La hydro scheme and thus efforts are underway to relocate the city's 120,000 population and governmental offices. Thus, if development aid-funded capacity-building programmes are to have greater impact on the design of less damaging developments, the limited role of EIA in Vietnamese development planning must be addressed more centrally.

Sources: Hirsch 1992, ESSA/SNC Lavalin 1997, Key Informant #3 1998

When strategic assessment has been promoted by capacity-building programmes a wide range of non-project levels are typically represented. Project documents for the IDRC

and VCEP projects revealed references to either regional or cumulative effects assessment (IDRC 1993a, ESSA/SNC Lavalin 1996b). Other projects, such as the UNEP/IUCN project, the EU project, and phases I and II of the UNDP Capacity 21 projects, promoted the full range of non-project assessment including plans, programmes, regions, cumulative effects and policy assessment. The UNDP Capacity 21 project (phase I) specified in detail the need for MOSTE to develop EIA guidelines which the entire range of Viet Nam's sectoral and line ministries could use to assess their own "sectoral development planning" and "sectoral master plans" (MPI/UNDP 1997a, 30). The second phase of the UNDP project employed areawide assessment through a series of pilot projects designed to demonstrate to Vietnamese staff in the Ministry of Planning (MPI) how to incorporate environmental considerations into regional planning (UNDP 1998). Additional information about Capacity 21 strategic assessment activities is discussed in Box 4.3. Of all forms of SEA promoted by capacity-building programmes, cumulative effects assessment is least represented: over 30% (5 of 16) of aid agency documents failed to mention cumulative effects assessment at all, while another 25% (4 of 16) mentioned it only once.

Box 4.2 Institutional Context Affects Capacity-Building: The PIAP Programme and MTC

CIDA's Policy Implementation Assistance Project (PIAP) works with the Vietnamese Government's Ministry of Transport and Communications (MTC). Standard MTC planning processes are to follow a project-by-project approach to transportation planning, and thus, CIDA-PIAP's EIA capacity-building approach has chosen to focus on EIA at the project level, leaving the promotion of higher-order assessments for the future.

When the PIAP project first started in 1996, there was a high level of resistance within MTC to the idea that the environmental and social impact assessment should be carried out as a standard part of project design and planning. This approach was seen to be the mandate of the Ministry of Science, Technology and Environment (MOSTE). However, acceptance of EIA came more rapidly when senior members of MTC realised the creation of an Environmental Management Unit within MTC, and application of basic EIA as a standard part of transportation project planning, would result in significant gains to MTC's planning autonomy. Although MOSTE would still ultimately review EIAs conducted for MTC projects, it would be less likely to reject outright transportation projects which had already considered or mitigated some of the environmental impacts. As well, the creation of a MTC environmental management unit, and training of staff environmental specialists, was thought as a likely means for MTC staff to be selected as technical experts for EIA review panels appraising transportation-related projects.

The development of EIA capacity in MTC has since been easier to accomplish: MTC has developed, with many inputs from PIAP staff, its own EIA guidelines or "standards" for transportation projects and is negotiating with MOSTE to have these adopted as a national standard. The MTC also reached an agreement with MOSTE that small-scale MTC projects will be internally assessed through its own environmental unit in order to reduce the EIA appraisal burden on MOSTE and allow it to concentrate more exclusively on larger projects. As well, MTC staff have been exposed to a series of EIA training courses, practical case studies, and follow-up training sessions related to EIA over the first three years of the PIAP project. In one training session, MTC staff from a variety of departments were exposed to a one-day refresher course on EIA, followed by a second day of field-based practical case studies involving three alternative routings of a proposed highway project. Staff visited cities and villages which would be impacted, studied the proposed routings, and carried out practical exercises in mitigating the impacts of each alternative routing.

Nonetheless, MTC still requires much EIA capacity-building. As recently as 1998, MTC conducted separate EIAs for each of three transportation-related projects that were linked both spatially and functionally (a deepwater port, an airport export processing zone and a connecting six-lane highway). As well, comprehensive social impact assessment has not been practiced as part of MTC project design: initial planning for the highway project would have seen a series of rice-growing villages obliterated simply because they were located on rocky outcrops which MTC engineers viewed as ideal raw materials for the highway substrate. Thus, although PIAP has led to greater EIA capacities within MTC, much remains to be done in future years, and perhaps, subsequent phases of the CIDA project.

Sources: Field Notes Feb. 26-27 1998, Informant # 49 1998, Informant #50 1998

Box 4.3 Extending EIA Capacity Beyond Environmental Institutions

One of the successes in development aid EIA capacity-building has been the extension of EIA capacities beyond MOSTE and academic environmental training institutions, to mainstream development planning institutions such as the Ministry of Planning and Investment (MPI). MPI is the most influential and powerful of Viet Nam's governmental ministries, and is charged with the responsibility of evaluating over 1000 major investment proposals per year. As "the key integrator of investment" (Informant #59 1998) MPI is in the mainstream of development planning, project design and decision-making.

Until the arrival of the UNDP Capacity 21 (Phase I) project, MPI's evaluation criteria for development proposals rested almost entirely upon: 1) the technical nature/feasibility of the project, and; 2) proposed investment capital. Until recently, environmental considerations were not part of MPI's project appraisal process. The Capacity 21 project recognized that MPI was in an excellent position to incorporate environmental impact and environmental planning concerns at an early, project design phase of the development planning cycle. Thus, throughout both phases of the project, efforts have been made to raise awareness within MPI of the need to incorporate environmental considerations with development planning.

In addition to a series of training programmes held for MPI staff, the UNDP project adopted a participatory approach in developing MPI-specific 'Environmental Screening Guidelines' to be used in determining potential environmental impacts for all major MPI investment projects. Existing screening guidelines were first obtained from the Asian Development Bank, World Bank and the European Union. Then, a series of large projects now in operation in Viet Nam (including Hoa Binh dam and the My Thuan bridge project) were used as case studies, and MPI staff took part in training sessions to determine how project impacts could have been reduced through design changes. Following these activities, MPI-specific guidelines were developed by MPI staff at a UNDP workshop. The guidelines were developed as a means of assisting in the design of less-damaging investment projects, and assisting in MOSTE's mandate to ensure that proposed developments have undergone an environmental review. This recognises that capacity within MOSTE to administer the EIA process is still so low that MPI often "takes decisions to approve projects without asking NEA/MOSTE for an environmental assessment" (Informant #51 1998).

One aspect of capacity-building which has been pushed recently by the UNDP Capacity 21 project (Phase II) is strategic environmental assessment, mainly at the regional and policy levels. This has been adopted, in part, as a means by which MPI can avoid overlapping with MOSTE's area of responsibility, the environmental assessment of *projects*. Three areawide assessments, involving ongoing environmental problems in a silk production region, an industrial zone, and a peri-urban area of Halong City, have been used by UNDP consultants to demonstrate to MPI how to incorporate environmental considerations into regional planning. One of the Vietnamese counterparts in the project reflected that SEA was of great importance for the future of MPI's project-planning because "once projects have been decided upon there is not much room to change...EIA must move upstream in decision-making to have a more positive and profound effect" (Informant #62 1998). Through initial training in EIA at project levels, the Capacity 21 project has gained a foothold and begun to stimulate thinking in MPI about incorporating environmental considerations into development planning processes at regional and policy levels.

(Sources: Informant #47 1998, Informant #51 1998, Informant #59 1998, Informant #62 1998, MPI/UNDP 1998).

4.2.3 Scientific Knowledge Seen as the Key to EIA Capacity-Building

Of all the themes differentiating the Technical and Planning models of EIA, the expected knowledge base for EIA practice proved to be the least contentious for capacity-building practitioners in Viet Nam. The dominant knowledge base upon which EIA is expected to rest is largely agreed to be that of science and quantitative data gathering methods. This view is then translated into capacity-building activities designed to make Vietnamese EIA practice more "scientifically reliable" (EU Project 1997a, 1). Only 1 of 16 documents analysed (the UNEP-IUCN training manual) supported the use of Planning Model forms of knowledge (i.e. a multitude of knowledge forms should form the knowledge base of EIA, including scientific facts and knowledge, indigenous knowledge, public values and opinions) more frequently than Technical Model forms. In many cases, scientific knowledge and quantitative approaches were the only forms of knowledge deemed valid for EIA applications (6 of 16 documents mentioned scientific/quantitative forms of knowledge exclusively).

Of all Planning Model attributes related to the knowledge base of EIA, the inclusion of societal values and opinion in public involvement phases of the EIA cycle was most strongly supported. Generally, capacity-building project documents acknowledged the value of incorporating public opinions, although most commonly this was understood to come in the form of feedback on completed EIA studies rather than as a valued form of knowledge useful in the data gathering phases of EIA (i.e. useful knowledge about ecological or social systems, or the potential impacts of development on such systems). Little mention was made of the value of including TEK, and/or customary community-level ecological and social

knowledge in EIA studies. Two key informants commented that such a lack was, in part, due to the recognition by capacity-building staff that such forms of knowledge are not accepted as valid by Vietnamese technocratic planners, who feel that people who exhibit traditional knowledge are 'backward' (Informant #15 1994, Informant #48 1998).

4.2.4 An Assumption of Certainty in EIA Applications

Another theme differentiating the Technical and Planning models of EIA is the treatment of knowledge certainty and uncertainty in the EIA process. When capacity-building programme documents were analysed for this theme, 75% (12 of 16) documents showed a greater level of support for Technical Model attributes (i.e. In effect, near certainty of EIA predictions is assumed). For most capacity-building programmes, EIA was promoted to Vietnamese counterparts as a process which would lead to accurate predictions of impact, and which would allow the 'selection' of the least damaging of a series of project alternatives or project designs. None of the project documents analysed featured a significant level of discussion about uncertainty in EIA, chaotic systems responses to perturbation, development planning in the face of uncertain impacts or ecological/societal responses, or phased 'adaptive' implementation of developments. This represents a large gap in EIA capacity-building programming, particularly as some Vietnamese voice concern that most EIA reports submitted for governmental review "have no discussion of uncertainty or risk assessment" (Informant #59, 1998).

When Planning Model themes relating to uncertainty did emerge, these were largely confined to statements about the need to monitor post-construction impacts in order to

"periodically review and alter impact management plans" (UNEP 1996, 587). Although uncertainty, adaptive planning, or precautionary approaches in development planning were mentioned at least once in the majority of capacity-building programme documents (11 of 16 documents), only the UNEP-IUCN and IDRC projects indicated these as anything but a minor feature of capacity-building activities (IDRC 1993a, UNEP 1996). Nonetheless, the relatively strong and consistent support among aid agencies for long-term monitoring, and in some cases project adjustment or redesign, assists in promoting the concept that EIA includes a measure of uncertainty.

4.2.5 Promotion of Longer-term or Multi-phase EIA

Among many of the capacity building programmes there was a strong degree of support for the promotion of EIA which went beyond the Technical Model's 'one-shot' (singular and short term) studies so frequently criticised in EIA literature (see for example: Jones and Grieg 1985, Rees 1985, or McDonald and Brown 1995). Of 16 capacity-building programme documents analysed, only 2 (13%) demonstrated greater support for one-shot studies (i.e. the ADB and CIDA-PIAP programmes). However, in both of these cases, post-construction monitoring was also indicated as an important component to EIA, promoting the message to Vietnamese planners that even the most basic forms of EIA require some measure of follow-up. The message that post-construction monitoring and follow-up is an important component of EIA was mentioned frequently by a diverse range of Vietnamese attending capacity-building workshops (UNEP-IUCN Workshop Notes 1997, Netherlands Embassy EIA-CSP Workshop Notes 1998, PIAP Workshop Notes 1998). As a result of this awareness on the part of Vietnamese programme participants, the promotion of limited 'one-shot' studies

under a Technical Model, if attempted by development aid programmes, would likely be ignored by the intended Vietnamese audience.

Most commonly, development aid programmes promoted the Planning Model ideal that EIA should go beyond singular and short term studies by: carrying out EIA over longer-term study periods; carrying out a series of studies throughout the lifetime of the development, and/or; practicing EIA as an essentially continuous process of impact assessment, monitoring and in some cases, adaptive planning and re-design. As but one example of this, the UNEP-IUCN capacity-building programme *EIA Training Resource Manual* promoted the concept that EIA should be carried out "throughout the project cycle, beginning as early as possible in the concept design phase" (UNEP 1996b, 73) and continuing long enough to provide for monitoring, management, audit and evaluation that can lead to "improvements in project (re-design" (UNEP 1996b, 74). Variations of this message were found in the majority of aid agency documents analysed, and in a broad range of key informant interviews with aid program affiliates (Informant #47 1998, Informant #60 1998, Informant #61 1998, Informant #63, 1998).

4.2.6 Public Involvement and Social Aspects of EIA: Much Talk but Little Action

> Foreign aid projects follow the requests that originate from the Vietnamese side, so because (social aspects of EIA) is not a Vietnamese priority, it is not an aid priority.
>
> (Informant #59 1998).

Although EIA capacity-building programmes generally recognise the potential importance of public involvement from the perspective of public involvement and social

impact assessment, one trend was clear: few capacity-building activities include these elements. This was recognised very soon after the 1994 passage of Viet Nam's National Law on Environmental Protection (NLEP). In 1995 one senior UNDP official observed "EIA capacity-building has started without this social factor" (Informant #29 1995). However, even with this early recognition, as late as mid-1998 very few capacity-building activities with such a social theme had been carried out by development aid agencies (Informant #59 1998, Informant #62 1998).

Both public involvement and social impact assessment themes are touched upon in most projects that deliver capacity-building shortcourses and training sessions, yet these topics are generally minor components of overall course content. The Netherlands Embassy EIA-CSP project conducted EIA training over a 25 day period involving 66 discrete training themes/sessions, yet social impact assessment was not mentioned, and 'public involvement' comprised just 1 of the 66 sessions (Haskoning Consulting Engineers and Architects 1998b, 13-16). Similarly, the CIDA-VCEP *Human Resources Strategy and Training Plan* (ESSA Technologies Ltd. 1996, 17-19) identified a total of 24 one- to two-week training courses or single-day workshops to be delivered over the project lifetime to national and provincial government EIA staff. However, during this time, only two seminars addressing social impact assessment and public participation were planned, and the expected duration of each seminar was just one day. A third example of the lack of capacity-building action related to public involvement was seen in the UNEP-IUCN project. Following the distribution of the project's EIA training manual to Vietnamese counterparts, feedback was solicited on means to strengthen the manual: the Vietnamese *participants* identified the need to strengthen

content and training on public participation (UNEP/IUCN 1997, 108). A notable exception to this general tendency was the IDRC capacity-building project which devoted approximately 10% of training course contact hours to social impact assessment and public involvement themes (IDRC 1994, 12), the highest level documented among capacity-building training courses.

The lack of development aid activity directed toward building Vietnamese capacities to carry out social impact assessment and public involvement is further seen by examining the choice of Vietnamese counterparts in capacity-building programmes: most counterparts have been selected from environmental, hard science, planning or construction/engineering institutions. There is a decided lack of attention paid by development aid agencies toward involving personnel from 'social' Ministries, social science departments of Universities, or socially-oriented Vietnamese NGOs[56] in EIA capacity-building programmes. By way of example, invited Vietnamese guests for the opening workshop of the Netherlands Embassy EIA capacity-building project included approximately 25 individuals from environmental, technology or construction institutes or agencies, while only 3 individuals representing socially-themed institutes (e.g. Ministry of Labour Protection, and the Institute of Society and Economy) were invited (Netherlands Embassy EIA-CSP Workshop Notes 1998)[57]. Although capacity-building programmes generally mention the need for increased public

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[56] These are more accurately termed GONGOs (Governmental Non-Governmental Organisations). GONGOs are organisations that function similarly to NGOs but which have significant ties to government through funding, personnel or monitoring of activities. No Vietnamese NGOs are truly autonomous from the Vietnamese government (Kaosa-ard et. al. 1995).

[57] This is, in part, a reflection of the disproportionately higher numbers of 'technically' vs. 'socially'-themed Vietnamese agencies, institutes and Ministries. However, if capacity-building programmes are intent on upgrading social impact assessment capacities it will be necessary to 'oversample' from socially-themed institutes and 'undersample' from those that are 'technically'-themed.

involvement and social impact concerns in the Vietnamese EIA process, they usually fail to involve those who may have the most appropriate background.

The form of public involvement promoted by development aid agencies varied significantly from programme to programme, often resulting in a contradictory message being delivered across the range of Vietnamese counterparts. Although 81% (n=13 of 16) of aid agency documents analysed mentioned public involvement as an integral part of EIA, 31% (n=5) demonstrated greater support for Technical Model tenets (i.e. limited efforts to educate the public about a project's impacts, persuading the public of the project's benefits, or consulting the public for input at the EIA review stage). Only 19% (n=3) of documents demonstrated greater support for Planning Model forms (such as participation in impact studies, shared decision-making about project attributes or location, or delegation of partial decision-making authority to potentially affected publics). The remaining 38% (n=5) of aid programmes mentioning public involvement adopted a 'shopping-list' approach whereby the full range of Technical and Planning Model approaches were promoted equally for consideration by Vietnamese counterparts. While it was common for capacity-building programmes to promote public involvement at the scoping and EIA review stages, only two development aid programmes (UNEP-IUCN and UNDP Phase II) were explicit in promoting public involvement throughout all stages of the EIA process. As a result of this variation, some Vietnamese counterparts are being encouraged to practice greatly limited forms of public involvement (e.g. formal, written public commentary only at the EIA review stage), while others are encouraged to explore a fuller range of options (e.g. participatory techniques

of environmental and social data gathering, and delegation of partial authority over project design or locational decisions).

4.2.7 Reliance on Rational Comprehensive Planning Theory as an EIA Basis

For the majority of capacity-building projects in Viet Nam, rational comprehensive planning theory underpinned the model of EIA promoted, with little attention paid to the incorporation of alternative planning theories. When aid agency documents were analysed, 75% (12 of 16) contained more frequent references to planning theory corresponding to the Technical Model. Most capacity-building projects promoted a form of EIA which, through comprehensive, scientific and predictive studies, would be capable of identifying the 'least-damaging' of a series of project alternatives, an approach consistent with the usual interpretation of rational comprehensive planning theory[58] (see for example Hudson 1979). Furthermore, most capacity-building projects explicitly promoted the concept that EIA study teams should be comprised of technical environmental experts, rather than individuals with skills in public involvement, advocacy or with knowledge about wider environmental and social policy goals. From these observations, Technical Model tenets are judged to be dominant for this area of analysis.

However, two capacity-building projects, the first and second phases of the UNDP Capacity 21 project, advocated EIA approaches with a theory base more consistent with the Planning Model. Although these projects continued to rely on rational comprehensive planning theory for many capacity-building activities, they also advocated the use of mixed

[58] See section 2.6.3.7 for detail on rational comprehensive planning.

scanning theory. For example, the broad goal of "environmental sustainability" was transformed into guiding principles for the design and assessment of development proposals both large and small, and for regional development plans (UNDP 1998, 12) and capacity-building was based on these principles. Such an effort conforms to mixed scanning theory, in that the planning of individual projects or regional plans is constrained and guided by longer-term, and larger-scale sustainability considerations. The second phase of the UNDP project also featured pilot projects designed to build Vietnamese capacities to carry out environmentally sustainable development on a regional scale. In carrying out pilot projects with their Vietnamese counterparts, the UNDP adopted a strategy of holding "interactive public meetings and participatory appraisal exercises" (UNDP 1998, III-34) with individuals most likely to be affected by changes in the developmental patterns of each region, and public comments were incorporated in subsequent project activities. In using face-to-face meetings with the affected public as a means to carry out project activities, capacity-building under the UNDP project was judged to have incorporated transactive planning theory.

As mentioned in section 4.2.5, many capacity-building projects advocated multi-stage or continuous EIA rather than the linear approach expected under rational comprehensive planning theory. Although most capacity-building projects promoted rational comprehensive planning approaches in the earlier stages of EIA (i.e. in determining the 'least damaging' alternative), most also promoted the use of follow-up studies, monitoring and project re-design to reduce impacts even further. Thus, the EIA process advocated by most capacity-building programmes follows a modified form of rational comprehensive planning theory,

where adjustments and unanticipated impacts can be incorporated into long term development planning and management.

The following section outlines a variety of factors identified by capacity-building programme staff, and their Vietnamese counterparts, as influencing the model of EIA promoted by development aid agencies for use in the country.

4.3 Factors Influencing EIA Models Promoted by Capacity-Building Programmes

4.3.1 Funding Agency Goals

Development aid funds committed by both multilateral and bilateral aid agencies for programming in Viet Nam were typically governed by a range of explicit goals, policies or strategies. The ADB "core environment program", governing all of ADB's environmental lending and technical assistance throughout the 1990s, contains five main elements (ADB 1994b, 81-92): 1) the promotion of environmental lending; 2) the design of country-specific environmental programming; 3) internal environmental capacity-building for ADB staff; 4) project-level environmental review, and; 5) institutional capacity-building in developing countries. The last two elements were instrumental to the design and operation of the ADB's EIA capacity-building programme in Viet Nam where there was an almost exclusive focus on project-level EIA applications and the capacity-building required to effect these in Viet Nam's National Environment Agency. Prior to the project's commencement, a senior environmental staff member of ADB involved in the project's design expressed the opinion "EIA is fundamentally a design tool for projects" (Informant #1, 1994). With such an

institutional, and sometimes personal, commitment to project-level EIA, it is not surprising ADB's capacity-building activities were centred on project level applications.

Similarly, just prior to the commencement of IDRC's 1994 EIA capacity-building programme in Viet Nam, six "core themes linking environment and development" were developed as guidelines for IDRC programming over the 1993-1996 period (IDRC 1993b, 8). The first of these, "integrating environmental, social and economic policies" through initiatives such as "strengthening of human resource and organizational capabilities", and "increasing the number of social scientists...capable of integrating environmental concerns into their work" was influential in guiding IDRC's EIA capacity-building programme in Viet Nam. Consequently, IDRC's capacity-building programme in Viet Nam promoted EIA which incorporated social impact assessment and public involvement concerns as important elements of the EIA process.

Although difficult to enumerate for all EIA capacity-building programmes in Viet Nam, the stated goals and objectives guiding multilateral and bilateral aid programming were observed to be important influences on the model of EIA promoted. Thus, if aid agencies wish to adjust their model of EIA, an obvious starting point is to adjust the wording of their own mission statements, programme goals and aid strategies. However, another important influence which may prove more difficult to control is the actions of the institutions carrying out aid agency programmes, the implementing agencies and Vietnamese counterparts.

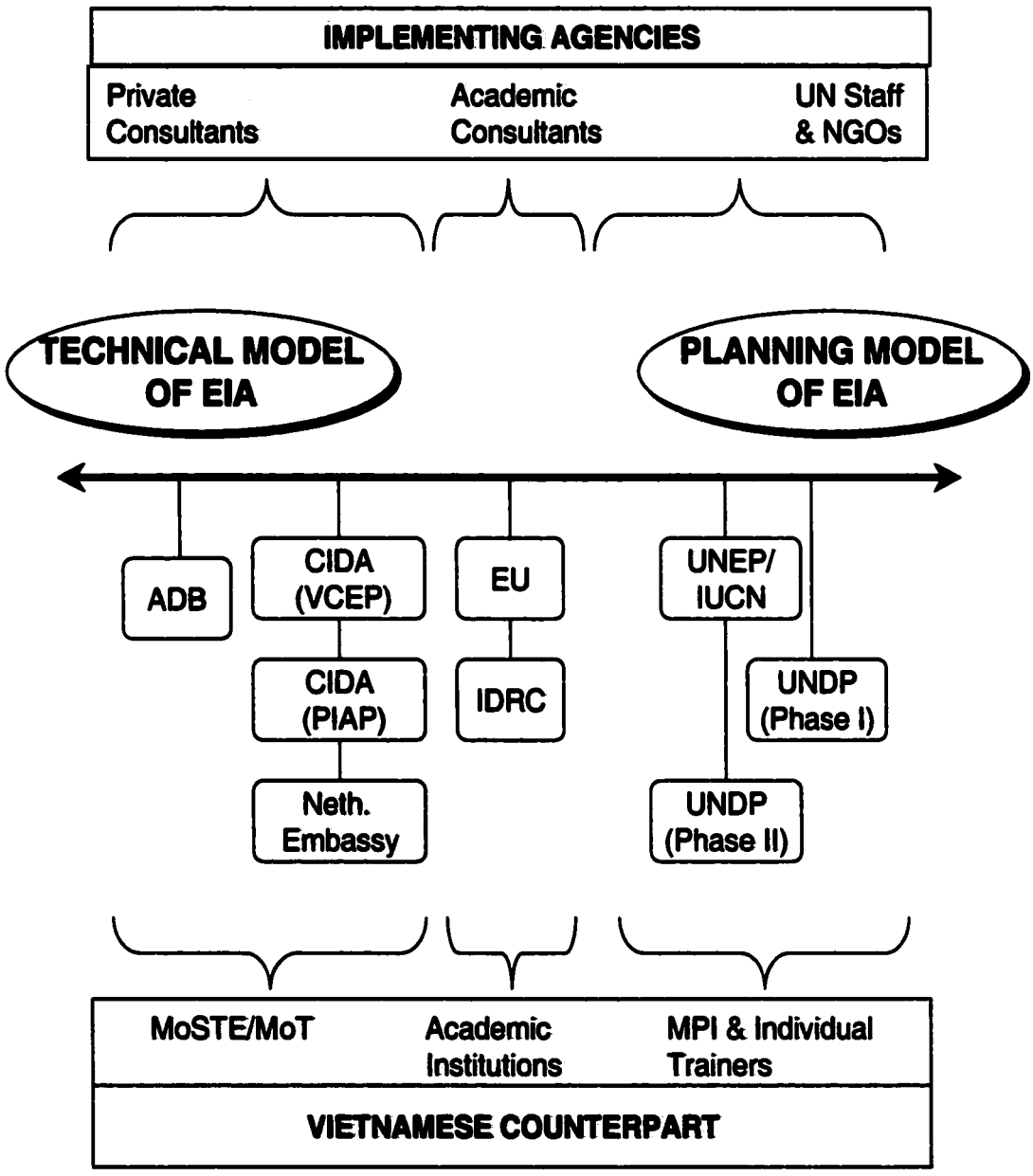
4.3.2 Biases of the Implementing Agency

I also examined the influence of the agency implementing capacity-building programmes. In addition to using the seven EIA model themes to analyse capacity-building programmes, I ranked subjectively each programme on a scale ranging from one to five (see Table 4.2). A rank of one represented a 'strong Technical Model', a rank of three represented a 'Mixed Planning and Technical Model', and a five represented a 'strong Planning Model'. The distribution of ranked programmes was as follows:

- I judged one programme (ADB) to be a 'strong Technical Model';
- Three programmes (Netherlands Embassy, CIDA-PIAP and CIDA-VCEP) were judged to be examples of a 'moderate Technical Model';
- Two programmes (the EU and IDRC programmes) were judged to be examples of a 'mixed Planning and Technical Model';
- I judged three programmes (the UNEP-IUCN, UNDP-Phase II and UNDP-Phase I programmes) to be 'moderate Planning Models'.

When the ranked programmes were plotted on a chart (see Figure 4.1) capacity-building programmes clustered together in a series of three broad groups (loosely defined as the 'technical model' programmes, the 'mixed model' programmes and the 'planning model' programmes respectively).

Figure 4.1 EIA Models Promoted by Capacity-Building Programmes in Viet Nam



One discernible feature linking each of these groupings was the personnel or institutions implementing capacity-building programmes. All programmes falling into the 'technical model' category were designed and carried out by private consulting firms[59], while all 'mixed model' programmes were carried out by academic institutions or their consulting designates, and all 'planning model' programmes were carried out by United Nations agencies or their NGO affiliates. Thus, EIA capacity-building programmes in Viet Nam were judged to have been influenced by the type of implementing agency carrying out programme activities.

4.3.3 Biases of the Vietnamese Counterpart

Another possible influence affecting the model of EIA promoted by capacity-building programmes is the choice of Vietnamese counterpart institution. Development aid programmes typically involves at least one foreign institution (the implementing agency) and one or more Vietnamese counterpart institutions (see Table 4.3), and research results suggest the choice of Vietnamese counterpart is a factor in the model of EIA promoted. To date, EIA capacity-building programmes have worked with a range of Vietnamese counterparts:

- Three have worked with MOSTE (ADB, Netherlands Embassy and CIDA-VCEP programmes);
- Two have worked with academic institutions (EU and IDRC programmes);
- Two have worked with the Ministry for Planning and Investment (UNDP Phases I & II), and;
- One has worked with the Ministry of Transport and Communications (CIDA-PIAP).

When the subjective ranking of each programme is displayed graphically (see Figure 4.1), it appears that the choice of Vietnamese counterpart may also play a role in the form of EIA model promoted. In broad terms, a Planning Model of EIA appears to be most acceptable to Vietnamese academic institutions, individual EIA trainers and the Ministry of Planning, while a Technical Model appears to be more acceptable to the Environment and Transport Ministries. Although more research is needed to confirm such a linkage, the 'institutional context' (i.e. the prevailing ideologies, priorities and biases) within the counterpart institution would likely have a bearing on the relative acceptability of ideas put forth by EIA capacity-building programmes. Such a context is known to be a major determinant of project operations and successes (Gow and Morss 1988). Since counterparts have usually been involved in earlier stages of programme design, their priorities and biases are likely reflected in the eventual programme operations.

Table 4.3 Main Actors in EIA Capacity-Building in Viet Nam

Funding Agencies
- Multilateral development aid agencies
- Bilateral development aid agencies

Programme Designers and Implementing Agencies
- Private sector - international consultants
- Academic institutions
- Multilateral development aid agency staff
- International non-governmental organisations (NGOs)

Programme Counterparts (Vietnamese counterparts)
- Government agencies: environmental, planning and transportation ministries
- Vietnamese academic institutions: environmental and geography departments
- Private sector: individual Vietnamese environmental consultants and trainers

[59] Although bilateral or multilateral aid agencies provided broad programme design guidelines to consulting firms and funded such programmes, ultimately each had significant design inputs, and was carried out, by private consulting firms.

4.3.4 The Vietnamese Context: Environmental Planning Resources, Ideologies and Institutions

Development aid programmes, including those with an EIA capacity-building focus, are "neither designed nor implemented in a vacuum: they are a product of the broader context of which they form a part" (Gow and Morss 1988, 1400). There is a significant body of literature suggesting that environmental planning procedures such as EIA are strongly affected by a host of cultural, social, political, administrative and ecological factors comprising the overall "development planning context" of a country or region (Tester 1981, Mayda 1985, Adams 1990, Henry 1990, Rickson *et. al.* 1990, Edwards 1993, Lawrence 1994a, Malik 1995). Thus, the Vietnamese context in which capacity-building programmes operate was explored as a potential influence on the EIA models promoted. Examining Viet Nam's development planning context, four main areas of influence were identified: 1) a desire to begin EIA practice using a simple or 'stripped-down' form of EIA, 2) hesitancy in promoting social and participatory aspects of EIA, 3) a tendency to view EIA's predictive abilities as overly accurate, and; 4) the political realities of development planning decision-making. Each of these will be outlined below.

4.3.4.1 Desire to Use Simple Form of EIA

The majority of Vietnamese and foreign key informants were of the opinion that the Vietnamese development context dictated the most pragmatic way to introduce EIA was to use a limited or 'stripped-down' form of EIA in the earliest stages, and later, add refinements and sophistication as practical capacity and expertise grew (Informant #22 1995, Informant #30 1995, Informant #50 1998). As one expatriate consultant observed:

> "...the Vietnamese tendency is to say "no" first when new capacity-building ideas are considered to be outside what already exists, with gradual acceptance possible at a later date"
>
> (Informant #42 1998).

Furthermore, although many key informants recognised EIA studies completed over the five years since the NLEP was enacted (using a limited technical model of EIA) were of low quality, these were still considered to be important in building up indigenous capacity for future, more credible EIA applications. Therefore, 'learning to do by doing' is seen as an important capacity-building strategy emerging from the Vietnamese context of limited resources, personnel and time. This context is reflected in a senior UNDP official's comment that one of the "huge problems" with Viet Nam's EIA process was the need to strengthen all supporting mechanisms (e.g. monitoring systems, legal bases, data collection and storage capacities) at the same time (Informant #9 1994). Another important contextual element which has prevented more sophisticated forms of EIA taking hold is the constant pressure from powerful individuals and institutions outside MOSTE to speed up the EIA process so it does not pose an investment disincentive (Informant #30 1995).

Such a context has dictated that a complex planning model of EIA (for example, incorporating adaptive planning approaches, significant public involvement and addressing all levels of development proposals) is not seen by aid officials or Vietnamese counterparts as desirable for the earliest years of EIA practice. As one senior expatriate aid official commented, "...the EIA model used is very simple: only after the basic concept and process is understood will more elaborate processes be introduced" (Informant #47 1998). Capacity-building programmes have responded accordingly with efforts to build initial capacity for

limited, technical-model applications of EIA, and only recently, to add more sophisticated components such as SEA and areawide assessment.

4.3.4.2 Resistance to Public Involvement and Social Impact Assessment

One clear influence of the Vietnamese context on EIA capacity-building programmes has been the high degree of resistance, among Vietnamese planners and government officials, to the idea of increased public involvement and attention to social impacts in EIA and development planning. At present, governmental EIA appraisal panels are most likely to be composed of technical and environmental science experts rather than social science or gender specialists (Informant #44 1998). Even when public participation is agreed by Vietnamese counterparts as a necessary component of EIA, the meaning behind this concept may be quite different to the meaning ascribed by expatriate aid officials and consultants. As an expatriate social impact assessment specialist observed:

> "...what the Vietnamese mean by participation and what (expatriate aid officials) mean by participation is very different. Presently in Viet Nam the style of planning is very far from participatory. The concept that the only way to know what people need is to ask them is such a big step".
>
> (Informant #60 1998)

Even though public involvement and spontaneous protest has played a positive role in affecting environmental development planning decisions in Viet Nam[60], most key informants indicated the expansion of public involvement in official planning processes was

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[60] One senior aid programme leader estimated that 20-30% of all industrial pollution inspections in Viet Nam are the result of public complaints (Informant #57 1998). Another aid official commented that public participation through letter writing campaigns and protests to local People's Committees is still a vibrant tradition, particularly among urban and older segments of the population (Informant #17 1994). In one example, 14 000 signatures of local residents opposing a proposed coal washing plant in the centre of Ha Long City were sent to National Assembly members, resulting in a decision to relocate the plant (Sinh 1998).

still too sensitive an issue for foreign aid programmes to address (Informant #48 1998, Informant #53 1998). One key informant was especially clear on this issue:

> Environmental impact assessment capacity-building does not address social or participation issues because these are new issues and concerns for Viet Nam....social issues within EIA are more sensitive than the physical environment, which has less ambiguity and is less politically sensitive.
> (Informant #62, 1998).

When faced with this context of reticence, most capacity-building programmes have responded by continuing to mention social impact assessment and public involvement as important, but not pressing these as priorities or creating associated capacity-building activities (Informant #52 1998, Informant #56 1998, Informant #59 1998). However, the lack of development aid programme activities targeted at strengthening social impact assessment and public participation capacities has created concern among some Vietnamese counterparts, prompting some to call for aid agencies to bridge the gap between rhetoric and action (Informant #52 1998, Informant #55 1998).

Although much of the reticence about incorporating public involvement and social impact assessment in EIA likely stems from a desire to avoid facilitating public conflict, there is also a measure of confusion over the messy, non-scientific nature of the information gathered in such studies. One senior Vietnamese researcher suggested that this is due, in part, to the fact that Vietnamese government officials are mostly trained in the hard sciences or engineering traditions, and thus find it difficult to deal with such information (Informant #30 1995). As well, when aid agencies first design capacity-building programmes they often consult Vietnamese counterparts on programme priorities or components. Their answers, and

thus aid agency programmes, often reflect the hard science and engineering priorities of counterpart backgrounds rather than social perspectives (Informant #59 1998). The basic environmental legislation in Viet Nam contains little reference to social aspects of EIA or public participation (Sinh 1998) and there is pressure from some Vietnamese counterparts to "stick to the law" when aid agencies design capacity-building programmes (Informant #40 1998). Added to this is the widespread observation of the generally low status of Vietnamese social scientists, and their lack of capacity or status to address applied social science concerns (Informant #15 1994, Informant #28 1995, Informant #48 1998, Informant #56 1998, Informant #59 1998). For all these reasons, many actors involved in Vietnamese capacity-building programmes are hesitant to include programme activities related to public involvement or social impact assessment.

4.3.4.3 Downplaying Uncertainty as a Planning Issue

The third area where the Vietnamese context has affected capacity-building programme design has been the sociocultural tendency to view development planning processes such as EIA as predictively accurate, and to downplay uncertainty as a environmental planning issue. This, in part, is linked to ecological teachings in the country and the environmental planning processes that flow from such teachings. Ecological theories and planning processes incorporating uncertainty, such as complex systems behaviour, chaos theory and adaptive assessment and management, has not yet been incorporated into Vietnamese curricula (Informant #48 1998). As well, as suggested previously there is little interest at this stage of EIA application to apply a more complex model of EIA which could address uncertainty. Although most EIA studies submitted to MOSTE have no discussion of

uncertainty or risk (Informant #59 1998), such studies are routinely approved. For these reasons, EIA capacity-building programmes have stressed EIA's predictive abilities and accuracy, and have not yet incorporated uncertainty or its implications for impact assessment.

4.3.4.4 The Political Context of Development Planning Decision-Making

The fourth aspect of the Vietnamese context is arguably the most influential and most difficult for EIA capacity-building programmes to transcend: the political context of decision-making processes governing development in Viet Nam. As one senior aid agency official commented:

> "In a country like Viet Nam or other similar countries such as China or Laos, you have two decision-making processes (for development investment): one is the *official* government agencies, line ministries, regulations and planning procedures, and the other is the *political* (powerful individuals, patron/client relationships, and influence exerted by the National Assembly and Communist Party). If you don't understand this you cannot understand the obstacles (to EIA capacity-building)....
>
> (Informant #51 1998)

Such a context routinely includes firm decisions to proceed with projects before EIA studies have begun, conflicts of interest, and bribery.

With EIA commonly "ordered after the decision makers have decided the project's a good idea" (Informant #48 1998), capacity-building projects have stressed a mitigatory and monitoring role for EIA, rather than as a confrontational process which may lead to a project's abandonment. Examples abound of development projects which are considered to be of such national importance to Viet Nam that firm decisions to proceed are made long before EIA processes begin. The $3.5 billion USD Son La hydro scheme and the $1.3 billion

USD Dung Quat refinery project[61] are but two examples of this tendency. It is also common for projects to be approved even though EIA studies have judged them to be highly damaging to individuals living in a particular area, since such projects are seen by decision-makers as in the nation's, and therefore every individual's, best interest (Informant #48 1998). In response to such a decision-making environment, capacity-building programmes have chosen the strategic path of promoting EIA as a process which concentrates on damage mitigation.

Conflicts of interest within the Vietnamese development planning and development decision-making process are relatively common, and two key informants offered specific examples of this. In the first example, provincial DOSTE offices responsible for the coordination of provincial-level EIA processes and the review of EIA reports, were identified as "often form(ing) EIA consulting companies even though this is a clear conflict of interest" (Informant #35 1997). In the second example, a foreign key informant (Informant #49 1998) suggested that MTC officials were motivated to form an environmental management unit within the ministry, in part, because of the expectation that senior staff within this unit would then be selected by MOSTE as technical experts for EIA review panels assessing transportation projects (see Box 4.2). In part, such conflicts of interest emerge from traditional power structures which allow personal connections to dominate EIA decisions (Informant #35 1997). However, these also emerge from the lack of human resource capacity within Vietnamese development planning systems. Educated Vietnamese professionals are encouraged and expected to take on multiple roles within the EIA process, some of which are

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[61] One senior MPI official commented "the best location for the refinery project, from a technical and environmental sense, was in the southern Viet Nam city of Vung Tau, next to the source of the oil, but for political and developmental reasons, Dung Quat in Central Viet Nam was chosen" (Informant #61 1998). The project had no EIA conducted up until July 1998, although half of the 250 hectare site had been cleared and over 300 families relocated (Viet Nam Courier July 5-11, 10).

conflicting. To date, there have been no independent EIA-producing institutes set up in Viet Nam (Informant #48 1998, Sinh 1998), and all personnel carrying out EIA studies usually also have strong links to Vietnamese universities or government departments.

Another area of the Vietnamese political context affecting capacity-building programmes is the common influence of bribery and corruption[62] on development planning decision-making. Three specific examples of this affecting EIA decisions were mentioned by key informants. The first example involved a small scale provincial-level hazardous waste-producing project[63] which was approved by the provincial MPI office (DPI) without an EIA, and without notification to environmental authorities, simply to ensure DPI officials received their "cut of approval money" (Informant #51 1998). In the second example, Vietnamese EIA consultants were convinced by district officials, through bribery payments and the influence of well-placed individuals, to avoid mentioning the environmental impacts of rock quarrying for an ADB-funded highway project (Informant #49 1998). In doing so, financial benefits flowed to district officials from the eventual quarrying operations. In the third example, on several occasions an EIA-producing institute was known to telephone the EIA appraisal committee chairperson and "agree upon some form of financial solution (in return for a favourable review)" (Informant #51 1998). In such a context, capacity-building programmes have not stressed improvement of EIA study quality as a top priority issue, although most programmes suggest that it is an issue to be worked on consistently over the longer term.

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[62] Irvin (1995, 742) concluded that corruption was "endemic" in Viet Nam due mainly to an overdeveloped government bureaucracy, leading to low salaries and low salary differentials between the junior and most senior staff. Staff with a capacity to rise in a bureaucracy are driven to seek supplementary sources of money to augment civil service salaries, or leave the civil service entirely to enter private industry.

[63] The Vietnamese EIA process is often triggered, and responsibilities defined, by the scale of a proposed project. Thus, "provincial-level" projects are deemed too small to attract the attention of the national MOSTE office, yet are large enough to require a provincial-level EIA study to be submitted to the appropriate DOSTE office.

In reaction to such a political decision-making context, some EIA capacity-building programmes have limited the model of EIA promoted in the short-term, while over the longer term, planning to promote more powerful forms which can contribute more directly to progress on sustainability goals (Informant #49 1998). Some capacity-building programmes have focussed on creating indigenous capacities to mitigate the worst impacts of damaging projects, and to monitor projects once in operation, rather than raising expectations that EIA should challenge and stop poorly designed projects (Informant #50 1998). In a political decision-making context where the Vietnamese EIA consultant for a project is also on the review committee, it is perhaps not surprising that such a role has been adopted by capacity-building programmes.

4.3.5 Lack of Aid Coordination

Analysis of capacity-building programme documents and key informant interviews documented in sections 4.2.1 through 4.2.7 revealed a significant variation between the EIA models promoted by different aid agencies, in part, due to a lack of development aid coordination in Viet Nam. Unintentional overlap between EIA capacity building programmes was recognised following the inception mission of the ADB project where it was acknowledged many of the ADB's proposed activities were "found in other foreign assisted projects, and coordination among donors has been limited to date" (RCG/Hagler-Bailly 1995, 4). Experiences where project personnel arrive in country to begin their activities, only to find that a previously unknown capacity-building programme has already carried out a very similar programme of action, are not uncommon. In one case, staff of the Netherlands

Embassy capacity-building programme eliminated approximately 25% of potential programme content during the project inception meeting when Vietnamese counterparts and other capacity-building programme staff made clear which activities were already going on (Field Notes 1998). One senior Vietnamese official who has been involved with EIA research in the country for over 20 years summarised EIA capacity-building efforts as "very timely, very positive, but not systematic or well coordinated" (Informant #59 1998).

Many in the Vietnamese development aid community cite the UNDP as having adopted the role of attempting to coordinate and harmonise aid efforts in Viet Nam (Informant #32 1995, Informant #41 1998, Informant #46 1998, Informant #48 1998), however to date, the UNDP has not established a mechanism which can address such specific development concerns. The annual 'Donor Consultative Group' chaired by the UNDP in Viet Nam is primarily concerned with broad issues of the direction and funding level of overseas development aid to Viet Nam, and does not address specific thematic concerns such as EIA. As well, informal meetings, in which a particular theme linked to environmental aid is explored (e.g. small-scale industry, forestry or urban planning), are held each month between UNDP and other members of the Viet Nam aid community. However, such meetings are "very ad hoc" (Informant #57 1998), and are still too broadly focused to address themes as specific as EIA capacity-building (Informant #49 1998, Informant #58 1998). In recognition of this, in mid-1998 the World Bank and Canadian VCEP project attempted to develop a series of 'sub-sector' discussion groups (i.e. groups which form around a particular development sector such as Environment and which meet regularly to discuss microscale issues within that sector) for aid agency officials and Vietnamese counterparts (Informant

#58 1998). A Swedish aid project entitled *Strengthening Environmental Management Authority (SEMA)*, although not specifically addressing EIA capacity-building, has also endeavoured to coordinate aid efforts linked to MOSTE (Informant #57 1998). Notwithstanding these efforts, EIA capacity-building efforts still suffer from a lack of coordination among the donor community. Unless further action is taken, future capacity-building efforts will continue to suffer from a lack of coordination.

Some senior expatriates within the Viet Nam aid community see the lack of coordination between aid programmes as being fostered by Vietnamese counterparts, and part of a purposeful strategy of "divide and rule" (Informant #48 1998). By discouraging aid coordination, counterparts can request similar work from different aid programmes and then compare and select the 'best' of the resultant output (informant #51 1998). By way of example, EIA guidelines for hydro projects were requested by Vietnamese government officials from three different development aid programmes: the CIDA-VCEP programme, the EU programme and a joint Norwegian/Swedish project[64] (Informant #38 1997, Informant #58 1998, Informant #64 1998). Some Vietnamese counterparts benefit financially from such a lack of coordination:

> Sometimes the Vietnamese make money from (the lack of aid coordination). Documents or information arranged for one donor is sold to the next...they can earn money three times instead of one".
>
> (Informant #51 1998)

The end result of aid coordination being so fragmented as to produce overlapping agendas and redundant outputs is a diversity of EIA models promoted within Viet Nam.

4.4 Vietnamese Responses to EIA Capacity-Building Programmes

As part of the research, I documented the opinions and responses of Vietnamese participants in capacity-building programmes. For the most part, such opinions were offered during key informant interviews or aid agency training sessions and workshops, and participants were often surprisingly candid about both the positive and negative aspects of capacity-building activities.

4.4.1 Positive Responses to EIA Capacity-Building

Most Vietnamese participating in EIA capacity-building programmes spoke positively about the intellectual and catalytic role development aid agencies have had in assisting Viet Nam to place EIA and environmental planning concepts on the development agenda, and to assist in the comparatively rapid implementation of these. In particular, many key informants spoke of the 'legitimising' role capacity-building programmes played, raising awareness among top decision-makers of the benefits of a formal EIA process and in doing so, legitimising its need within the Vietnamese development planning process (Informant #52 1998, Informant #55 1998, Informant #62 1998). This was thought to be particularly the case within non-environmental Ministries such as MPI "where the prestige of foreign ideas carries a higher weight or influence" (Informant #59 1998).

In addition to this role, Vietnamese key informants also spoke positively about the role such programmes have played in facilitating exposure to international planning ideas and procedures new to Viet Nam. Capacity building programmes have been responsible for

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[64] This project, referred to by key informants as the National Hydropower Master Plan Study, was due to start in late 1998.

valuable intellectual stimulation in a country which, for many years, was cut-off from exchanges with a large part of the international development planning community. This has been particularly true in recent years with initial efforts to promote Planning Model concepts such as strategic environmental assessment and regional assessment: as one senior Vietnamese participant stated, "...because of our involvement with capacity-building projects, now we think SEA is a topic that we should think about" (Informant #56 1998). It has also resulted in new awareness among MOSTE and NEA officials that Viet Nam's EIA procedures, which include the need to conduct EIA on existing projects, differ markedly from most other countries and must be addressed in future revisions of the regulations (Informant #53 1998).

Not surprisingly, most Vietnamese key informants agreed capacity-building programmes had provided important benefits simply through the provision of key physical infrastructure and related physical resources useful in the EIA process (Informant #56 1998, Informant #53 1998). Examples of these include the EU programme's development of a GIS laboratory at the National Centre for Natural Science and Technology, and an environmental planning library and lecture facilities at the National University of Hanoi. Assistance with the computerisation of the EIA process was also seen as an important infrastructural benefit of capacity-building programmes, particularly those working within MOSTE (Informant #22 1995, Informant #53 1998). Another physical resource which Vietnamese programme counterparts appreciated was the many sectoral EIA guidelines and case studies (e.g. Hydropower projects, industrial zones and transportation projects) completed by five different aid agencies (ADB, CIDA-VCEP, EU project, Netherlands Embassy and UNDP-

phase II). Such resources were viewed by Vietnamese key informants as a useful form of practical standard toward which Vietnamese EIA consultants could aspire, and an even more useful training and capacity-building resource.

Another major area where EIA capacity-building programmes were seen to benefit Vietnamese counterparts, particularly those working for government agencies, was in strengthening management capabilities for Viet Nam's growing EIA process and responsibilities (Informant #49 1998, Informant #53 1998). Assistance and advice was appreciated in such areas as the restructuring of governmental environmental assessment responsibilities at MOSTE, MTC and MPI, the design and implementation of an EIA tracking system within MOSTE (to advise staff of the status of all ongoing and completed EIAs), and advice on optimum staffing levels, staff recruitment and staff training programmes (ESSA Technologies Ltd. 1996, Informant #53 1998, Informant #61 1998).

Vietnamese key informants acknowledged that development aid programmes had been responsible for the generation of new EIA capacities outside MOSTE and Hanoi-based university institutes, and such a decentralisation of EIA capacity was judged to be a positive development for the country (Informant #34 1997, Informant #53 1998). As a result of participation in capacity-building programmes, DOSTE staff in a series of northern Viet Nam provinces, and Hanoi-based staff within both MTC and MPI (see Boxes 4.2 and 4.3), were judged by some informants to have developed an appreciation for the EIA process and the capacity to implement some of its ideals (Informant #47 1998, Informant #49 1998, Informant #51 1998). Although much of the EIA capacity emerging outside of MOSTE has

been located in northern Viet Nam, a few university training institutes in southern Viet Nam have also benefited from exposure to development aid programmes, and by mid-1998 some had begun to conduct EIA shortcourses for DOSTE officials in nearby provinces (Key Informant #55 1998).

One final aspect on which Vietnamese key informants commented positively was the relatively long-term nature of many of the EIA capacity-building programmes (Informant #53 1998, Informant #59 1998). Capacity-building programmes ranged in duration from 6 months to 4 years, with the average programme lasting just over two years (see Table 4.4). Lengthy programmes were seen to provide important stability benefits, both financially and in terms of the added status or 'clout' such projects lent to fledgling environmental departments or university programmes. Some Vietnamese key informants suggested projects of "a minimum of one year" duration provided greater benefits than short-term projects, which were seen to be too specific and too demanding on limited counterpart resources (Informant #53 1998).

Table 4.4 Duration of EIA Capacity-Building Programmes in Viet Nam

Programme	Duration
• Netherlands Embassy	6 months
• UNEP-IUCN	6 months
• Asian Development Bank	1 year
• IDRC	1 year
• UNDP-Phase I	2 years
• EU Project	3 years
• UNDP-Phase II	3 years
• CIDA-PIAP	4 years
• CIDA-VCEP	4 years

(Source: Field Notes, 1998)

4.4.2 Negative Responses to EIA Capacity-Building

One area where Vietnamese key informants felt capacity-building programmes could improve significantly was in the delivery of EIA training courses, particularly in the post-1997 period. Negative comments about such training courses were common, and included the observation that, in the future, Viet Nam needed longer and more detailed courses related to EIA rather than the typical 3-10 day shortcourses many capacity-building programmes continued to provide (Informant #52 1998, Informant #53 1998, Informant #55 1998). Key informants also suggested there was a need to better screen potential trainees to ensure they were well placed within the development planning hierarchy to use their EIA knowledge, had an appropriate level of background knowledge to understand EIA concepts (Informant #33 1997), and to ensure "the same senior government officials do not receive redundant EIA training from different aid donors" (Informant #55 1998). Although some key informants suggested EIA training courses had been strengthened in recent years by the addition of Viet Nam-specific content (e.g. case studies, context, and references to Vietnamese regulations and planning bodies) (Informant #56 1998), others felt this area could be improved further (Informant #33 1997, Informant #55 1998).

Another area of potential improvement mentioned by Vietnamese key informants was the overly 'northern Viet Nam-centric' distribution of capacity-building activities: the majority of capacity-building activities have been conducted with institutions and individuals based in northern Viet Nam, even though much of Viet Nam's industrial development occurs in the south (Informant #34 1997, Informant #55 1998). Although some of the more recent capacity-building programmes have included linkages to provincial DOSTE offices and

regional planning bodies outside of Hanoi (e.g. VCEP, EU and UNDP projects), all capacity-building programmes included in this research had their head offices in Hanoi and the majority of their capacity-building activities were concentrated in northern provinces of Viet Nam. One key informant from a southern Viet Nam environmental research centre observed that for a typical workshop conducted as part of a capacity-building programme, only one or two individuals from southern Vietnamese institutions would be invited while often 30 or more from the north would be in attendance (Informant #55 1998).

A few Vietnamese key informants commented negatively on the lack of capacity-building activities for social impact assessment and public involvement aspects of EIA, while recognising that these were difficult issues to deal with in the country (Informant 28 1995, Informant #34 1997, Informant #44 1998, Informant #55 1998). One informant specifically suggested that development aid agencies had raised expectations around these themes, yet had not followed up with action: "EIA capacity-building programmes have introduced concern for social impact assessment, but no specific activities have been undertaken to build SIA capacity" (Informant #55 1998). From these comments, I understand that capacity-building programmes have begun to affect the Viet Nam context, which previously limited inclusion of social issues within EIA, and that SIA and public involvement issues are beginning to be an expected component of capacity-building actions.

4.5 Summary: Main Findings

This chapter has highlighted the main empirical findings of the research, derived from key informant interviews, participant observation and content analysis of secondary data. As

these findings were often not uniform across the nine EIA capacity-building programmes included in the research, the following section summarises the main points:

4.5.1 EIA Models Promoted by Capacity-Building Programmes

- Capacity-building programmes promote EIA models with a high degree of variation, ranging from a "strong technical model' to a 'moderate planning model'.
- EIA concentrating on biophysical impact assessment is being promoted more strongly than integrated forms (i.e. biophysical, social, economic impacts).
- All capacity-building programmes promote project-level EIA, but many also promote strategic assessment of policies, plans, programmes or regions.
- Aid agencies do not strongly promote cumulative effects assessment.
- Capacity-building programmes promote scientifically-derived knowledge as the most valid form for EIA: multiple forms of knowledge (e.g. science + traditional ecological knowledge + public opinion) are not strongly promoted.
- Uncertainty in EIA is not acknowledged nor factored into aid agency capacity-building.
- Capacity-building programmes strongly support long-term, multi-stage or continuous EIA rather than 'one-shot' approaches.
- Capacity-building programmes promote public involvement and social impact assessment in official rhetoric, but this is not matched by capacity-building actions.
- Most Vietnamese counterparts in capacity-building programmes are drawn from environmental, hard science, planning or engineering/construction institutions: very few are drawn from socially-themed institutions.

- Capacity-building programmes offer contradictory messages about the appropriate format for Vietnamese public involvement.
- The dominant planning theory basis of capacity-building programmes is a modified version of rational comprehensive planning theory.

4.5.2 Factors Influencing EIA Model Promoted

- The internal goals and objectives of aid agency funding programmes influence the form of EIA used in capacity-building.
- The biases and priorities of implementing agencies and Vietnamese counterparts influence the model of EIA promoted.
- Aid agencies view the Vietnamese development planning context as strongly influencing (and limiting) the form of EIA that can be successfully promoted: simple EIA processes are valued more than the complex; public involvement and social impact assessment are seen as too sensitive to incorporate; uncertainty is not seen as an important environmental planning issue, and; the political context of decision-making (including EIA beginning after firm decisions to proceed have been made, conflicts of interest, and bribery) reduces concerns about capacity-building to improve EIA quality.
- The lack of development aid coordination contributes to the diversity of EIA models being promoted.

4.5.3. Vietnamese Responses to Capacity-Building Programmes

- Aid agencies are recognised as having provided an essential role in stimulating awareness for environmental planning, and placing related capacity-building needs on Viet Nam's development agenda.
- Aid agencies are recognised as having been critical in facilitating the rapid implementation of the EIA portion of Viet Nam's National Law on Environmental Protection.
- Vietnamese counterparts to EIA capacity-building programmes are beginning to adopt as priorities new ideas first imported and promoted by aid agencies (e.g. Strategic Environmental Assessment).
- Aid programmes are recognised as having provided badly needed physical infrastructure and resources supporting the Vietnamese EIA process.
- Aid programmes are recognised as assisting in the under-developed area of EIA management (i.e. project tracking, personnel training and divisional management responsibilities).
- Capacity-building programmes are recognised as having had recent success in building more decentralised EIA capacity, particularly in northern Viet Nam's provincial DOSTE offices and within MTC and MPI.
- Vietnamese counterparts greatly appreciate long term capacity-building programmes (1-4 years), while viewing shorter-term programmes (6-12 months) as a drain on Vietnamese counterpart resources.

- Vietnamese counterparts view EIA training courses delivered by many aid programmes as too short, general and generic.
- Training courses offered by different aid agencies are often attended by the same senior Vietnamese officials, leading to redundancy and inefficiency.
- Capacity-building programmes are viewed by some Vietnamese as overly 'northern Viet Nam-centric'. More capacity-building activities in southern Viet Nam are needed.
- Capacity-building programmes have raised Vietnamese expectations surrounding social impact assessment and public involvement, yet these programmes have not followed up with significant capacity-building actions, nor targeted Vietnamese institutions with a 'social' mandate.

In the following chapter I discuss the findings of the research, tracing the influence of development aid programmes in Viet Nam's EIA system and discussing the capacity-building needs left unmet by such programmes. I then examine the roots of resistance to fuller implementation of a planning model of EIA, and suggest capacity-building programmes have not reached their full potential in contributing toward the achievement of Viet Nam's UNCED sustainable development goals. The chapter concludes with a discussion of the extent to which my research results are generalisable beyond Viet Nam.

Chapter Five

CHAPTER FIVE - INTERPRETATION OF RESULTS

Findings from the empirical research traced in Chapter Four were organised around themes derived from both academic literature and discussions with participants in Vietnamese EIA capacity-building programmes. These findings are discussed and interpreted in the following sections. Where appropriate, case study findings are linked back to the body of academic literature traced in Chapter Two.

5.1 Unmet Capacity Building Needs

Although capacity-building programmes have undoubtedly been instrumental in developing the status and implementation capacity that now exists in Viet Nam, much of the initial work has focused institutionally on central government ministries or university institutes, and has stressed the scientific, technical and administrative needs of 'environmental' impact assessment. There has been insufficient attention paid to the public involvement and 'social' aspects of EIA. In short, there are several unmet needs for EIA capacity-building in Viet Nam before the country can achieve full implementation of a planning model.

5.1.1 Attempting Higher-Order Assessment as a Precursor to Project-Level Assessment

In directing EIA capacity-building primarily to project-level concerns, development aid agencies operating in Viet Nam may have missed a vital opportunity to leverage aid dollars. Instead, by first building capacity for strategic environmental assessment, agencies could have factored in concern for negative environmental and social impacts at policy, programme and regional levels before individual projects are designed. Although such an approach would be virtually unprecedented in development aid programming, the likelihood of Viet Nam achieving its sustainable development goals by this method would be far greater than through elaborate efforts to construct a project-oriented EIA system. Capacity-building programmes must decide the level at which first to address impact assessment concerns. In some countries, capacity building which first promotes higher-order assessment would provide the highest 'return' on aid spending. In other countries, a more usual focus on project-level assessment may work better.

5.1.2 Uncertainty in Impact Assessment and Development Planning

There is a growing body of evidence that all impacts are not predictable, and that EIA processes should be constructed with the assumption there will be unanticipated outcomes of development projects and programmes (Black 1991). However, development aid agencies operating in Viet Nam have largely ignored such evidence in carrying out EIA capacity-building efforts. In effect, aid agencies are helping the Viet Nam government to construct an EIA process which does not factor in the implications of uncertainty. Future development proposals will proceed, even though the associated EIA studies are flawed and will not anticipate some of the eventual environmental and social impacts. It is unclear whether aid

agencies consider uncertainty too unimportant or 'sensitive' for Vietnamese planners to consider[65], or ignoring uncertainty was simply an oversight. However, for aid agencies to continue promoting EIA as predictively accurate is ill-advised, and potentially negligent, to the extent that it compromises the achievement of Viet Nam's sustainable development goals and wastes aid dollars. Uncertainty in EIA, and appropriate capacity-building responses to it (including adaptive environmental assessment, the precautionary principle, and phased development), should be incorporated into aid programmes wherever possible. My research revealed that aid agencies are already promoting the idea of post-development impact monitoring (which should assist in the realisation that predicted impacts are not always matched by the actual effects). Additional capacity-building stressing the existence of uncertainty within EIA could provide added support for such monitoring.

5.1.3 Social Aspects in EIA: a Long Road Ahead

Of all the capacity-building needs which have been unmet by aid agency programmes, none is more important or so lacking in Viet Nam's capacity-building activities as 'social aspects of EIA'. Aid agencies should routinely promote the assessment and mitigation of social impacts, since individuals living in developing countries are generally more vulnerable to development-induced change than are developed country counterparts (Doberstein 1994). Under-emphasising the assessment of developmental impacts on people is not limited to Viet Nam, and has been referred to as "the main flaw in many (developing country) resource policies" where there has been a simple failure to focus on human as well as environmental impacts (IDRC 1992, 44). Public involvement, while more of a contentious

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[65] Knight (1991) suggests that uncertainty may be perceived as a central consideration of EIA, or largely dismissed, depending on the socio-cultural context within which it is considered.

issue for Viet Nam, should be further explored by aid agencies with their Vietnamese counterparts. Efforts could be made to test a variety of forms of public involvement on 'real-world' Vietnamese development projects, and to determine the relative benefits of public involvement in the specific development planning context of Viet Nam. Given the low level of programme activity, it is likely that functional capacities in the social aspects of EIA will remain very low for years to come in Viet Nam, particularly since social institutions will likely remain marginalised in the mainstream EIA process. One important step development aid agencies could take would be to initiate capacity-building programmes on 'social aspects of environmental impact assessment'. Such programmes should initially target MOSTE and MPI staff, staff of socially-themed government ministries, university institutes with a mandate to teach or research such areas[66], and NGOs or private consultants who could conduct social impact assessments or advise on public involvement processes. Once capacities at these levels have been established subsequent programmes could be developed to widen and extend capacities to provincial government levels.

5.1.4 Unacknowledged Knowledge: Indigenous Knowledge Left Out of EIA Capacity-Building

Development aid agencies have relied on the almost exclusive promotion of scientific forms of knowledge as the basis for Viet Nam's EIA process, leaving unmet the need to promote the use of complementary forms of knowledge in EIA such as indigenous knowledge. Such an oversight logically leads to the construction of an EIA process which consolidates power in the hands of a scientific and technocratic planning elite. This will lead

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[66] The National Centre for Social Sciences and Humanities (NCSSH) would be an obvious starting point, and existing research institutes within NCSSH including the Centre for Human Geography, and the Ethnographic Research Institute

to an EIA process which does not, nor cannot, factor in the legitimate needs and desires of members of the Vietnamese public who do not have the technical or scientific basis to contribute on an equal footing. A society like Viet Nam's, in which values and attitudes are formed mainly out of an indigenous knowledge base, should logically construct an EIA system which legitimises and includes indigenous knowledge. The lack of capacity building in this area can also be seen as yet another example of the lack of attention paid by development aid agencies to greater public involvement in Viet Nam's EIA process. Although aid agency rhetoric suggests TEK and other forms of non-scientific knowledge are valued in the EIA process, capacity-building practices indicate that there is hesitancy in promoting this to Vietnamese officials or following up with specific capacity-building actions.

5.1.5 Missing Actors in EIA Capacity-Building Programmes

Development aid agencies have generally failed to work with three groups of actors as counterparts in capacity-building: the private sector, affected communities, and academic institutions located in southern Viet Nam. Although most capacity-building programmes have involved the quasi-private sector staff of university research centres (e.g. those faculty members who carry out the bulk of Viet Nam's EIA studies as consulting contracts), none have attempted to stimulate or strengthen stand-alone environmental consulting companies, nor have addressed the variety of problems facing academic research institutes as they attempt to operate private sector consulting subsidiaries. With the private sector carrying out such a key role in Viet Nam's EIA process, there is a need for aid agencies to carry out a private sector-focused aid programming which can provide a range of supports. This would

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would have much to contribute once capacity-building has taken place.

include administrative advice on the design and operation of consulting companies, means by which to increase the quality of consulting work, and the establishment of long-term mentoring relationships between Vietnamese and foreign environmental consulting firms.

There was also almost a complete absence of EIA capacity-building targeted at 'affected individuals or communities': those at the commune or village levels potentially affected by development proposals. Such a programme would most usefully be carried out as a 'learn-by-doing' activity based on a real-world development likely to affect particular communities, and would attempt to prepare villagers to contribute to EIA studies and participate in the EIA process. Capacity-building programme staff could expose villagers to a basic explanation of the EIA concept and nature of the proposed development, and could then facilitate the inclusion of villagers inputs (i.e. their knowledge, factual information and values) into the EIA process. For example, aid agency staff could demonstrate in easy-to-understand terms the completed project (e.g. renditions of a completed project, tours to view similar projects, or visits to a proposed relocation area), ask villagers to consider the negative or positive impacts of such a project on their own family, and then ask villagers to propose changes which might improve the project. This approach mirrors a highly successful process used by Morse and Berger (1992) to gather impact input from individuals living in some 125 villages potentially affected by the proposed World Bank Sardar Sarovar hydro project. Although the resulting capacity to become involved in EIA processes might be transitory for individual villagers, the development planning process would show an improved capacity to carry out basic village-level public participation in EIA, especially as more and more successful examples were carried out in Viet Nam. Thus, in extending EIA capacity-building

programmes to the village or commune level, nation-wide capacities to carry out public involvement in development planning would also be strengthened.

The final group of actors largely ignored by capacity-building programmes has been the southern Viet Nam academic institutes responsible for EIA and environmental planning training. With government ministries responsible for both the EIA process (MOSTE) and economic investment and development planning (MPI) being located in northern Viet Nam, and many respected university institutes, initial capacity building has largely been concentrated in the north. However, with so much of Viet Nam's private sector investment being concentrated in the south, there is a large unmet need for an expansion of EIA capacities in south Viet Nam, particularly in training for DOSTE staff in southern provinces, and the stimulation and expansion of a southern Viet Nam environmental private sector. Thus, future development aid programmes should aim for a broader geographical balance to capacity building.

5.1.6 Capacity Building Has Not Transformed Vietnamese Planning Theory

Many of the failings of capacity-building programmes are linked to the desire of aid agencies to work within the existing theory base of Vietnamese planning process. Stated another way, EIA capacity-building has been largely conducted in order to mesh with the existing Vietnamese development planning process, rather than to challenge or to transform its theoretical base. The lack of social and public involvement aspects of EIA, alternative forms of knowledge in planning, higher-order impact assessment, and grassroots-level capacity building, all indicate that aid agencies have worked within the development

planning processes as currently practiced in Viet Nam. Thus, aid should consider capacity building which sensitises Vietnamese planners to the many alternative planning theories, and the benefits associated with these. Since this is likely a sensitive issue for Vietnamese counterparts, capacity building would be limited initially to efforts to open a dialogue with Vietnamese planners and academics, and to place the idea of change in planning theory on the Vietnamese development agenda.

5.2 Aid Agency Influence in Introducing a Planning Model of EIA

Over the last five years, the proliferation of capacity-building programmes in Viet Nam has been instrumental in helping the Vietnamese government to move EIA from concept to implemented process in a relatively short period of time. Capacity-building programmes have been instrumental to steady gains in EIA capacity in Viet Nam, particularly in boosting staff numbers and skill levels, creating needed technical guidelines, and supporting the development of EIA administrative capacities within MOSTE. Recent successes have also been achieved by moving away from exclusive concentration on MOSTE alone. As a result, development aid programmes have been responsible for contributing to EIA knowledge and skills in non-environmental ministries and sub-national development planning agencies. This reflects a successful strategic process of decentralising EIA capacity, by beginning with "core actors" in the Vietnamese EIA process and gradually moving outwards to involve a widening circle of institutions which strengthen and support the EIA process. Therefore, it can be concluded that in only five years of effort, development aid programmes have helped to transform the role of EIA in Viet Nam: from a training and awareness raising tool, EIA has become an officially mandated process which has begun to

influence both the design of new developments, and the wider development planning and decision-making process.

Capacity-building programmes have been successful in promoting some of the elements which comprise a planning model of EIA, however, it must be stressed that this success is only partial. These include progress in moving Vietnamese thinking about EIA beyond an exclusive focus on projects, stimulating concern in Viet Nam for longer-term EIA processes and monitoring of impacts, and beginning to raise awareness of the need to broaden impact assessment beyond biophysical impacts. In addition to indicating that capacity-building efforts have been successful, such progress is evidence that development aid agencies have begun to reconsider what comprises good EIA practice, and the best EIA platform upon which to build overall environmental planning capacity.

Elements of a planning model for EIA have been introduced through a variety of means including:

- Education and training;
- 'Learn-by-doing' activities;
- Strategic alliances with key individuals;
- Message repetition, and;
- Opportunism and gradualism.

Education and training were the most common means by which capacity-building programmes were able to introduce aspects of the planning model. Most capacity-building programmes included shortcourses, technical training or modular training packages as part of overall activities, and often these included planning model elements. Another highly

successful approach involved "learn-by-doing" EIA simulations or real-world case studies. Through such activities Vietnamese participants were exposed to concepts such as regional-level assessment and planning, the assessment of social impacts of developments and the need for impact monitoring and post-project adjustment (Field Notes 1997 and 1998). Another means by which successes were achieved was through strategic alliances and long-term capacity-building relationships with key Vietnamese officials. In one example, a Vietnamese professor specialising in natural resources and the environment stated that he knew nothing about the concept of EIA until 1983, yet was subsequently involved in six of the nine EIA capacity-building programmes used as case studies in this research (Informant #30 1995). The professor is now acknowledged as one of the key figures responsible for implementing EIA regulations in the country (Informant #9 1994). Development aid agencies have recognised that working with such respected individuals is a crucial means of convincing others to adopt newer and more radical aspects of EIA, including those central to the planning model. More simply, Vietnamese officials have also been convinced of the merits of the planning model through simple repetition, in which suggested changes to existing EIA practice are stated on multiple occasions, often by different aid programmes, until the message is internalised by Vietnamese counterparts (Informant #51 1998).

Another important means of introducing aspects of the planning model has been a combination of opportunism and gradualism: as EIA awareness has risen in Viet Nam capacity-building programmes have begun to move away from a technical model and to promote concepts such as greater public participation and greater integration with development policy-making. Although structural barriers in the Vietnamese development

context have prevented the adoption of a full planning model of EIA in Viet Nam, capacity-building programmes are now transforming, modifying or eliminating some of these barriers, sometimes by beginning with a technical model of EIA and continuing with capacity building activities which extend the model. In some cases there was explicit recognition by aid agency staff that a technical model was used strategically as a starting point or 'beach-head', around which future reforms and changes would be based (Informant #47 1998, Informant #49 1998). As one UNDP Capacity 21 project official commented:

> Throughout Phase I, EIA was used to get across basic concepts of environmental forethought and the process of sustainable development, not because it was felt to be really effective but because EIA is now a motherhood issue and everyone accepts it. Once EIA is instilled, further progress in other areas (e.g. policy assessment, areawide assessment and integrated planning) can be made.
>
> (Informant #47 1998)

Such observations indicate that the model of EIA promoted by aid agencies is not static. Through a combination of opportunism and gradualism, capacity-building efforts will likely move Viet Nam's EIA process further towards a planning model.

5.3 Roots of Resistance to the Promotion of the Planning Model of EIA

The research has indicated that there is currently resistance, on the part of both aid agencies and Vietnamese counterparts, to the full implementation of a planning model of EIA. There are many possible reasons for this, ranging from aid temerity to structural barriers to change within the Vietnamese development context. These reasons behind such resistance will be explored further in the following section.

5.3.1 Competing Planning Theories

Ultimately, EIA capacity-building efforts rest on normative beliefs about planning theory and associated conceptual models of EIA. Such beliefs define the manner by which EIA is seen to be linked to the development planning process, and guide both capacity-building programmes and Vietnamese counterpart behaviours. The research indicates there is currently a lack of harmony among the normative planning beliefs espoused by aid agencies (which often promote a planning model as an ideal form of EIA), the agencies which implement EIA capacity-building programmes, and Vietnamese counterparts involved in capacity-building programmes. This lack of harmony is even more evident when the normative beliefs of agencies and individuals in the wider development planning process are considered. Not surprisingly, this has also led to a diversity of conceptual models of EIA in the country. Variously, EIA is perceived as: an unnecessary hurdle for investors to overcome; an administrative and regulatory process; a technical tool to screen and mitigate projects; a wide-reaching means of stimulating less-damaging development projects and programmes, or; a potentially important means to reorient planning for sustainability.

5.3.2 Lack of Normative Conviction in Aid Agencies

Over the last 40 years of development aid, many agencies have been accused of promoting a 'donor-driven' development agenda which largely ignores the desires of intended recipient countries, and which undermines indigenous ownership and decision-making in development (Thomson 1996). In response, many agencies have recently adopted consultation with recipient country officials as a hallmark of aid programming, and have taken pains to construct aid programmes which closely match counterpart wishes. However,

this approach is also problemmatic if it is taken too far. In some cases, the counterpart's worldview may limit the scope of development planning and capacity building. As an example, in one EIA capacity-building workshop, aid agency officials asked over 60 Vietnamese environmental planning and university officials to identify capacity-building needs to be addressed over the following three years: the group failed to mention any needs associated with social impact assessment or public involvement, and instead focussed most of their attention on perceived *technical* weaknesses in the EIA process such as the lack of available impact modeling methods, poor database development and lack of knowledge about industrial production and technologies (Research Notes 1997). Development aid agencies, while attentive to concerns that development aid should respond to recipient needs, should also retain normative convictions about what constitutes 'good' or 'appropriate' planning processes and forms of development, and should carry out capacity building in this image.

5.3.3 Lack of Aid Coordination

The lack of aid coordination mentioned previously (see section 4.3.5) has contributed to resistance to the implementation of a planning model of EIA. In initially using a simpler technical model to get EIA 'up-and-running', some capacity-building programmes have run the risk of seeing such a model solidify into standard practice. That is, if MOSTE is judged by the Vietnamese government to be coping with existing EIA demands under a technical model, there is likely to be resistance to future planning model reforms (such as the introduction of public involvement) which could reduce the speed of the EIA process. Another way in which uncoordinated aid has fostered resistance to the planning model has been the variety of 'mixed messages' delivered to Vietnamese counterparts. When one

capacity-building programme stresses the inclusion of social impacts and strategic-level assessment, while another downplays such concerns, there is a real risk that the simpler, cheaper, and faster route will prevail. Such problems are confounded by the potential for different EIA models to be promoted at different levels of government, and to different actors in the EIA process.

With significant variation in how EIA may be conceptualised, there is a need for a mechanism[67] in Viet Nam to reduce the level of capacity building redundancy and mixed messages that is currently seen. Led by aid agency representatives, and with appropriate representation from Vietnamese planning officials and political decision-makers, a coordinating mechanism for EIA capacity-building would assist greatly in reforming the Vietnamese development planning process. Such a mechanism would serve to stimulate discussion and some measure of agreement between aid officials and Vietnamese counterparts on the idealised role or "vision" for EIA in development planning. Once a measure of agreement has been reached, EIA capacity-building efforts can be coordinated and harmonised toward that particular vision without the risk of redundant efforts, and future programmes can be designed to contribute in the most appropriate manner.

5.3.4 Structural Barriers to the Introduction of a Planning Model

As suggested earlier, Viet Nam's existing cultural, political and developmental context (see section 4.3.4) has prevented fuller adoption of a planning model of EIA. Henry (1990) very usefully suggested that a country's development planning context can be viewed

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[67] Although a number of mechanisms already exist (see section 4.3.5), none operate at the level of specificity required to address EIA capacity-building issues on an ongoing basis.

as a set of *structural barriers limiting the type and amount of change that can be effected by the introduction of planning procedures such as EIA and SIA* (emphasis added). The Vietnamese government initially adopted a technical model of EIA due to the short-term need on the part of government for an EIA process which, without fundamental restructuring or prohibitive financial commitments[68], could be assimilated easily into existing planning processes. However, a technical model now persists, in part, because of the threat a full planning model poses to existing planning and decision-making power.

In particular, efforts to promote greater public participation have been resisted by many individuals at all levels, many of whom have a vested interest in the status quo. Such a barrier reaches far beyond Viet Nam's borders to the rest of the developing world. Rickson et. al (1990, 235) observed that in many if not most developing countries "public participation and involvement is unacceptable". Structural barriers to participatory planning are deeply entrenched in present-day Vietnamese society, and the changes required (e.g. changes to existing power holders and planning structures) to implement a full planning model of EIA have not yet been addressed by aid agency programmes.

Another structural barrier to the implementation of a planning model in Viet Nam concerns the relevant or 'legitimate' knowledge base. As mentioned, most Vietnamese currently involved in EIA have been educated in the hard sciences, engineering or economic disciplines, and thus value the scientific knowledge base upon which these disciplines rest more highly than alternative forms, with which they have less experience. Epistemological

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[68] Mayda (1985, 1019) referred to this as the principle of "realistic simplicity". This principle states that "laws, as well as the institutions and procedures they establish, should be implementable, *i.e.* simple and tailored to each nation's needs and

rigidity is thus a structural barrier to the full adoption of a planning model. However, this barrier is further compounded by EIA capacity-building programmes which fail to promote other forms of useful knowledge or carry out supporting capacity-building activities. Unless future capacity-building programmes attempt to sensitise government officials and EIA practitioners to the value of knowledge forms featured in 'soft-science' disciplines (e.g. the traditional ecological knowledge or public opinions and values which have been the focus of attention in anthropology, planning and human geography disciplines), alternatives to scientific knowledge will continue to be overlooked in Viet Nam and a full planning model will not be implemented.

Structural barriers such as these extend far beyond the agencies and institutions involved in environmental impact assessment, and in Viet Nam, as in many other developing countries, likely compromise development and capacity-building efforts in other areas (e.g. rural development, forestry and fisheries development). Research by Boyle (1998) demonstrated that structural barriers to participatory planning and EIA were widespread in Asian developing countries, and that capacity building in the EIA sphere alone was unlikely to result in significant system-wide change. Such barriers are likely to persist if addressed solely by small-scale EIA capacity-building programmes. Development aid agencies working in Viet Nam would be more likely to achieve success across a broad range of development themes if cross-cutting structural barriers were identified, and capacity-building approaches adopted for all programmes in a particular country. This would serve to address structural barriers in a more systematic and successful manner.

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capabilities".

5.4 Will the EIA Model Promoted Allow Progress on Viet Nam's Sustainable Development Goals?

The research examined contentions in the academic literature that identify EIA as a means to: A) translate sustainability principles into strategy and action (Holtz 1990, Sadler and Jacobs 1990, George 1999), and; B) provide a bridge between present forms of development and those envisaged under sustainable development ideals (Doberstein 1994). In a 1992 report to the United Nations Conference on Environment and Development (UNCED), Viet Nam expressed a series of policy statements containing 'sustainable development goals'. Using these goals as a guideline (see Table 5.1), the researcher estimated both the potential for EIA capacity-building programmes to contribute to goal achievement, and actual contributions to date. Of the 20 sustainable development goals drawn from Viet Nam's UNCED submission, the researcher estimated that EIA capacity-building programmes had either a 'high' or 'medium' potential to contribute toward goal achievement for 17 of these goals. However, it was also estimated these programmes met their full potential for only two of the 20 goals.

Of the six sustainable development goals for which a planning model of EIA was judged to have a 'high' potential contribution, capacity-building programmes were judged to have contributed a 'medium' level of support for three goals, and a 'low' level of support for the remaining three. Capacity-building programmes have been an important factor in the implementation of the Viet Nam National Law on Environmental Protection and, through training and capacity building with provincial DOSTE's, have also been contributors to the delegation of environmental planning power. Yet in both cases, more could be done if aid agencies were to promote a planning model of EIA more strongly. Although capacity-

building programmes have assisted in helping Viet Nam reach its goal of assessing the environmental impacts of all proposed *projects*, a similar level of assistance in reaching the goal of assessing national, sectoral and local development *plans or policies* has not yet materialised. Continuing down the list of UNCED/Viet Nam goal statements, capacity-building programmes have failed to make a significant contribution to the achievement of the next three goals: the adoption of cleaner industrial production technologies, practicing precautionary measures in carrying out development policies, and the adoption of a 'least negative environmental impact' standard for industrial developments. These goals could be promoted by aid agencies as 'sustainable development criteria' against which development projects or policies would be assessed and judged in the EIA process. However, to date aid agencies have not adopted such an approach.

Of the twelve sustainable development goals which I estimated had a 'medium' potential contribution from a planning model of EIA, capacity-building programmes were judged to have reached this potential for just two of these goals: the expansion of environmental awareness, and changes to perceptions of environmental and resources values. For both goals, capacity-building programmes have provided as much support as could be expected through their widespread training activities, expansion of Vietnamese teaching capacity (i.e. the 'training-of-trainers'), public awareness campaigns, and sensitisation of decision-makers to environmental issues. For the remaining ten goal statements, capacity-building programmes were judged not to have reached their potential contribution. For example, goal statement number fourteen, to "...decrease the use of ...fossil fuels" could have been more fully addressed by capacity-building programmes through the development

of EIA review guidelines indicating that energy-sector development projects, plans or policies leading to increased fossil fuel consumption would trigger a rejection or proposal modification. Over the past six years of EIA application, many fossil-fuel burning power plants, motorcycle and automobile assembly plants, and oil and gas developments have successfully passed through Viet Nam's EIA process (SRV 1996, Research Notes 1998) yet all contribute to an expansion in Viet Nam's fossil fuel consumption. Likewise, goal statement number fifteen, to "reduce deforestation" could have been more fully addressed by capacity-building efforts. By linking the goal of limiting deforestation with the outcome of development proposals passing through the EIA process, hydropower projects such as the Son La scheme and numerous aquaculture developments situated in Viet Nam's coastal mangrove forests would be rejected or would require comprehensive modifications.

The failure of capacity-building programmes in Viet Nam to live up to their full potential is, in part, due to the relative infancy of EIA processes in the country. However, the predominant choice of a 'modified technical model of EIA' in capacity-building activities has also played a part in limiting EIA's contribution to the achievement of sustainable development goals. Despite these problems, the desire for and acceptance of change among some members of the development planning system in Viet Nam is high, posing an opportunity for further reforms and a fuller adoption of a planning model of EIA. However, explicit links between Viet Nam's sustainable development goals and EIA practice are needed, and capacity building which strengthens these links should be a goal of every development aid agency involved in building EIA capacity.

Table 5.1 Have EIA Capacity-Building Programmes Contributed to Achievement of Viet Nam's UNCED 1992 Sustainable Development Goals?

UNCED Goal Statements*	Potential contribution using a planning model of EIA	Contribution to date by EIA capacity-building programmes
1. Enact/implement Law on Environmental Protection	High	**Medium**
2. Delegate more power to local administrative bodies.	High	**Medium**
3. Conduct EIA for all development projects, and national, sectoral and local development plans.	High	**Medium (projects) Low (policies)**
4. Adopt cleaner industrial production technologies	High	**Low**
5. Use precautionary measures to prevent development policies from causing environmental damages.	High	**Low**
6. Adopt a "least negative environmental impact" approach in carrying out industrialisation.	High	**Low**
7. Expand environmental education and awareness programmes to people of all ages, particularly decision-makers.	Medium	**Medium**
8. Promote change to Vietnamese perceptions of environmental and natural resource values.	Medium	**Medium**
9. Improve rural living conditions, livelihoods and infrastructure.	Medium	**Low**
10. Reduce variability in water supplies through expansion of micro, mini and medium-scale dams/reservoirs.	Medium	**Low**
11. Use integrated planning and management to reduce marine pollution and biodiversity loss.	Medium	**Low**
12. Integrate ecological and economic regulations and planning.	Medium	**Low**
13. Internalise all environmental impact costs into resource and product prices, development decisions and construction estimates	Medium	**Low**
14. Promote energy conservation/ efficiency (decrease fuel wood, charcoal and fossil fuel use and increase hydro, geothermal, biogas, solar and wind energy).	Medium	**Low**
15. Reduce deforestation.	Medium	**Low**
16. Decrease use of chemical pesticides and fertilisers, and increase use of organic replacements.	Medium	**Low**
17. Improve urban living conditions through national and municipal planning and infrastructural improvement.	Medium	**Low**
18. Control production, import or export of hazardous wastes.	Medium	**Low**
19. Expand family planning efforts.	Low	**Low**
20. Extend terrestrial and marine park/reserve system	Low	**Low**

*Source: State Committee for Sciences 1992

5.5 To What Extent are Observed Patterns Viet Nam-Specific?

Although empirical research was carried out entirely within Viet Nam, a range of Viet Nam-specific and more generic patterns are exposed. Viet Nam's context, and experience in establishing EIA and environmental planning processes, demonstrate both unique features and features which it shares with other developing countries. This is an important observation since it identifies the extent to which research results may be seen to be generalisable to other developing countries. Ultimately, observations and conclusions drawn from Viet Nam's experience with EIA capacity-building are more likely to have relevance to other developing countries than to be considered 'Viet Nam-specific'.

On one hand, Viet Nam's recent war history, Communist Party governance system and low-level of economic development (relative to neighbours such as China, Philippines, Thailand and Malaysia) has led to a development context uncommon in Asian developing countries. Unlike many other Asian countries, basic environmental planning structures such as EIA were virtually non-existent in Viet Nam until the early 1990s. Since then comparatively rapid political changes, coupled with the unique place Viet Nam's war history occupies in the collective consciousness of aid agencies, have led to sudden and intense development aid interest in assisting with and funding the development of environmental planning structures to a level likely unparalleled anywhere in the developing world. With such unique features, aid agencies capacity-building experiences are unlikely to be fully replicable in other developing countries.

Furthermore, as both an 'economy in transition', from a centralised to market-driven economy, and to a lesser extent, 'political system in transition', Viet Nam is following a different path from that of many other developing countries around the world. Thus, the establishment of EIA in the country, and the assistance of development aid capacity-building programmes, reflects unique elements and patterns unlikely to be found in other countries. As an example of this uniqueness, after almost seven years of formal EIA implementation, 'private sector' EIA consultants have not yet emerged: most EIA consultants are government employees 'moonlighting' to supplement their incomes. As well, it is unlikely that Viet Nam's problems of EIA capacity-building redundancy and lack of aid coordination would be seen in other developing countries for the simple reason that it is unlikely that other countries would trigger such an intense, and in some instances, competitive 'aid stampede'. Such unique features ensure that Viet Nam's experiences with EIA and associated capacity building are unlikely to be wholly replicable in other developing countries.

On the other hand, Viet Nam shares with other developing countries common developmental problems and structural barriers, and aid agencies are also likely to exhibit a broad range of common behaviours regardless of the country involved. Thus, research results indicating that structural barriers, and aid agency responses to such barriers, prevent the full adoption of an EIA planning model in Viet Nam are likely to have relevance to other developing countries. In particular, structural barriers to the acceptance of social aspects of EIA, including participatory planning approaches, are expected to be found in most developing countries (see studies by Henry 1990 and Rickson et. al 1990, Boyle 1998). Similarly, resistance to the idea that non-scientific forms of knowledge are valid and useful is

widespread among developing country planners, and to a lesser yet still significant extent, aid agency officials. Perhaps most importantly, my research indicated that aid agencies promoted an EIA model which was based on 'ease of implementation', rather than firm normative convictions about the 'most effective' form of EIA, and such results are relevant to many other developing (and developed) countries. In building capacity for environmental planning in other countries, aid agencies are also likely to choose to work within, rather than confront or attempt to transform, the development planning context.

The following chapter summarises the implications of the research for the Vietnamese government, academia, and development aid agencies involved in environmental planning capacity building. The section concludes with the development of policy guidelines for EIA capacity-building programmes in Viet Nam and other developing countries.

Chapter Six

CHAPTER SIX - IMPLICATIONS AND CONCLUSION

This chapter highlights the implications of the research, which are grouped into three main categories: 1) implications for the Viet Nam government; 2) academic implications, and 3) implications for development aid agencies. The chapter concludes with the development of guidelines for EIA capacity-building programmes in developing countries, and a call for aid agencies to attempt to transform the development planning processes of developing countries through the promotion of a planning model of EIA.

6.1 Research Implications

6.1.1 Implications for the Viet Nam Government

The research carried out for this dissertation has the potential to assist the Vietnamese government by clarifying ways in which development aid programmes can strengthen environmental planning capacities and by stimulating discussion about the reform of existing environmental planning processes. Research results are likely of particular use to MOSTE's Environmental Impact Assessment division, and to institutions involved in the wider development planning process, especially in the coming years as the EIA system is extended to further interact with Viet Nam's various national, regional and provincial planning bodies.

A number of Viet Nam-specific policy implications arise from the findings of this research. Firstly, the research has revealed that although EIA can make a strong contribution to the achievement of Viet Nam's sustainable development goals, stronger and more explicit links should be made between these goals and the outputs of an EIA process. Many questions remain about the most appropriate form of EIA to adopt in the country and the relative weight that EIA outputs should have in overall development planning decision-making. It is suggested here that, as one of the myriad supporting conditions for sustainable development, Viet Nam's EIA process could be redesigned so as harmonise with and support the achievement of sustainable development goals. Development aid agencies, as part of their capacity-building mandate, should play a lead role in demonstrating ways in which the EIA process can best support Viet Nam's UNCED commitments. For example, one promising approach would be for aid agencies to discuss with Vietnamese counterparts in MOSTE and MPI the development of sustainable development indicators, which would be applied to development proposals at the EIA review stage and which would form a baseline condition for proposal approval, mitigation, redesign, compensation or rejection. This approach could later be expanded to include the development of sustainable development guidelines for use in the project design and planning, project implementation (i.e during the construction phase of projects or the implementation phase of policies and programmes), and monitoring phases.

A second policy implication of the research for the Viet Nam government is the immediate need to extend the EIA process 'upstream' to levels higher than that of the single project, and for aid agencies to take a lead role in assisting with this process. Existing Vietnamese EIA regulations stipulate that a form of regional EIA should be carried for area

master plans, and provincial and urban development plans (Binnie & Partners et. al. 1994, SRV/UNDP 1995a). Thus, appropriate legislation and high-level recognition of the value of 'upstreaming' EIA is already in place and can guide initial efforts. The Vietnamese government could also examine the possibility of moving beyond regional EIA, to strategic policy- and programme-level EIA, as a further extension of this upstreaming process. Again, capacity-building programmes could play a role in discussions about how best to ease into strategic environmental assessment. Although the Vietnamese government is unlikely to allow a high level of involvement by foreigners in debates about the scrutiny of internal development policies, development aid agencies could nonetheless be involved in promoting the strategic environmental assessment (SEA) concept, discussing the options for operationalising SEA, and assisting with the expansion of Vietnamese SEA capacities. Examples of possible means by which aid agencies could support this process include: funding study tours for Vietnamese to visit countries with an existing SEA tradition; organising workshops and conferences on the implementation of SEA; assisting in the development of university courses on higher-order EIA, and; implementing and monitoring an initial round of 'training-of-trainers' in order to increase the numbers of Vietnamese qualified to teach SEA courses.

A third policy implication for the Vietnamese government arises from the overlap and redundancy observed among EIA capacity-building programmes. With aid dollars limited, and uncertainty as to how long Viet Nam will remain of interest to development aid agencies, the Vietnamese government cannot afford to ignore the problems documented in this research. There are many possible ways in which the Vietnamese government could assist in

the coordination of aid programmes. The government could issue a clear policy statement indicating that government agencies and personnel must take all possible steps to reduce levels of EIA capacity-building overlap. In the case of government ministries such as MOSTE, division heads could be directed to liaise on a regular basis with aid officials to discuss the issue, and decide how to reduce overlap in programmes. Furthermore, Vietnamese officials could ask to contribute to existing development aid meetings chaired by UNDP and the World Bank, particularly by contributing up-to-date knowledge about past and current capacity-building activities. Furthermore, whenever new capacity-building programmes are proposed by a development aid agency, the issue of aid redundancy and programme overlap should be brought up by Vietnamese participants, and assurances gained from aid officials that overlap will be addressed and minimised at the programme design stage.

The fourth policy implication stems from observations about successful EIA capacity-building involving non-environmental ministries, including MTC and MPI: the Vietnamese government should consider further EIA decentralisation and capacity-building across the full range of line ministries. Development aid agencies would be expected to play a strong role in such a programme, particularly now that two successful examples can serve as case studies for other line ministries. Such an approach would simultaneously assist MOSTE in managing the workload associated with the EIA process, and stimulating the design of sectoral development projects and policies with fewer unintended impacts. One approach judged to be a success in EIA capacity-building with both MPI and MTC was the creation of 'environmental management units': this should be considered as a replicable process across

all line ministries. By extending environmental capacity building to a broader range of line ministries, and reducing further the number of developments which have avoided environmental scrutiny altogether, Viet Nam is more likely to achieve its sustainable development goals.

One final policy implication of the research is the need for the government to consider culturally-acceptable ways of increasing the level of attention paid to social concerns in Viet Nam's EIA process, primarily through heightened attention to social impact assessment and public involvement. Although many authors have documented the difficulties of integrating social aspects into the EIA systems of developing countries (Henry 1990, Rickson et. al 1990, Boyle 1998, Francis and Jacobs 1999), such difficulties may be reduced if Vietnamese planners take charge of and modify the process until it is more acceptable to Vietnamese society. Resistance to social aspects of EIA is also exacerbated in developing countries by the poor level of awareness of its benefits, particularly of the economic expression of such benefits (e.g. benefits of social impact assessment for a hydro project could be expressed as 'dollars saved by reduced resettlement costs'). Perhaps most importantly, in building the capacity to carry out successful social impact assessment or public involvement, it is crucial that Vietnamese ministries, academic institutions, and mass organisations with a 'social' mandate become more centrally involved in the EIA process and EIA capacity-building programmes. The Vietnamese government could begin such a process by requesting aid agency support for a programme dedicated solely to the topic of capacity building for social aspects of the EIA process. Initially, such a programme could aim to: stimulate discussion about culturally-appropriate means of including social concerns (e.g.

through the input of social science researchers); identify institutions with existing social impact capacities and those requiring further strengthening, and; create and implement a framework guiding a long-term programme of capacity building. By expanding concern for social aspects in the EIA process, the Vietnamese government would also be more likely to succeed in meeting its UNCED sustainable goals (see Table 5.1), particularly those relating to livelihood enhancement of rural dwellers, expansion of integrated planning approaches, and the reversal of deforestation.

6.1.2 Academic Implications

My research also contributes to current academic knowledge on environmental planning in developing countries. In particular, I have extended academic understanding of the role of development aid in building capacity for environmental planning, and contrasted the concepts and procedural models guiding some of the literature with empirical research results from Viet Nam.

Empirical studies on EIA in developing countries have predominantly documented the process of EIA implementation, the capacity deficiencies and associated 'action plans' to address such deficiencies, the implementation successes and failures, and to a lesser degree, barriers to the adoption of EIA (Lim 1985, Henry 1990, Rickson et. al. 1990, Leonen and Santiago 1993, Smith and Wansem 1994). Such studies often fail to analyse the form of EIA being implemented in a particular country or region, assuming either that EIA is a generic process or that any form of EIA will contribute positively to development planning and sustainable development. There has been a decided lack of empirical research examining aid

agencies as 'agents of change' in the development planning processes of developing countries, and even fewer examples of research examining the model of planning practice promoted by aid agencies. Thus, this research extends current knowledge on the contribution aid agencies have made in constructing environmental planning capacity and transforming environmental planning processes in developing countries.

Research results suggest the continued transfer of a modified technical model of EIA to Viet Nam is likely to continue, and unless aid agencies change the model of EIA promoted, will likely accelerate under the capacity-building mandate adopted so uniformly among aid agencies. Although some aspects of a planning model of EIA were found to have been promoted by aid agencies, and Vietnamese counterparts had expressed interest in these, the core features of a technical model were still more common. Academic literature documenting the rise of planning model EIA practices (e.g. cumulative effects assessment, strategic assessment, acceptance of multiple forms of knowledge, participatory EIA) is therefore overly-optimistic for developing countries. Furthermore, the continued transfer to developing countries of a modified technical model of EIA suggests that the official pronouncements of many development aid agencies (e.g. suggesting that 'participatory planning, 'grassroots development', 'ecological sustainability' and 'equity in development' are the agencies' overall guiding vision of development) are not always adhered to at the level of aid agency programmes. Although capacity-building programmes led to greater acceptance of some aspects of a planning model of EIA, a complete planning model was not promoted, leading to the current situation where a mixture of technical and planning model elements influence Viet Nam's EIA process. As shown, the reasons for this are complex, and

in Viet Nam's case, include a combination of host-country structural barriers, the desire by aid agencies to collaborate with developing countries in setting aid agendas, and the biases and beliefs held by implementing agencies and their host country counterparts.

One of the central themes explored in academic literature on EIA in developing countries has been the effect established political and institutional frameworks within a country have upon the implementation of EIA (Mayda 1985, Clark and Herington 1988, Gamman and McCreary 1988, Rickson et. al 1990). The research has demonstrated that such frameworks are of great importance, both in dictating the form of EIA adopted in a particular developing country, and in determining the importance attached to EIA in development planning decision-making. This in turn has important implications for capacity-building programmes. The research has indicated that capacity building restricted in scope to individual ministries or institutions (such as a country's Ministry of Environment) is not a promising means by which to effect the fundamental changes to development planning necessary to achieve a transition to sustainability. Nor is such an approach a promising means by which to introduce a planning model of EIA. Thus, EIA capacity-building should be carried out as but a sub-programme of wider aid programming to stimulate sustainable development planning processes in a country. If aid agencies are serious about contributing to the achievement of sustainable development, and a planning model of EIA is felt to be a contributing factor, future capacity-building efforts must address needed changes to the development planning process in which EIA is housed. There are limits to the level of change which can be achieved by carrying out EIA capacity-building solely with the government's environmental agencies and teaching centres. For the fundamental changes envisaged under a

planning model, aid agencies must expand capacity-building efforts to work with a wider range of Vietnamese institutions responsible for development planning decisions, including MPI, provincial People's Committees, potentially affected regions or villages, the Vietnamese National Assembly, and line ministries responsible for the design and implementation of sectoral development programmes and projects. Although useful steps in this direction have been taken in Viet Nam by the UNDP/MPI Capacity 21 projects, such approaches should be widened further and other bilateral and multilateral aid agencies assisting in Viet Nam should be involved in a coordinated effort to transform the ideology of development planning in the country.

Although there is a convincing and rapidly growing academic literature calling for environmental planning processes such as EIA to be explicitly linked to sustainability 'indicators', such as carrying capacities, assimilative capacities, cumulative effects or the conservation of natural capital (see Rees 1988, Goodland and Daly 1995, Noorbakhsh and Ranjan 1999), the research carried out for this dissertation has indicated that such an approach has not been promoted by EIA capacity-building programmes working in Viet Nam. There are a variety of reasons for this oversight. Firstly, such an approach would first require the Vietnamese government to take firm decisions legitimising the role, and power, of EIA to influence decisions in the development planning process. If, for example, EIA was promoted by aid agencies as a process determining the acceptability of a proposal (based on whether it contributed to or reduced sustainability), this would imply EIA has power as a 'decision-making' tool in its own right, a role which is currently not supported by the Vietnamese government. Secondly, the use of such indicators would also require decisions to

be made about appropriate spatial scale: if sustainability is defined at the regional scale, the EIA process would recommend the rejection of those proposals predicted to reduce sustainability within the region, while the same might not be true if a different scale was chosen (Noorbakhsh and Ranjan 1999). In initially choosing to build capacity for project-level EIA, most capacity-building programmes operating in Viet Nam have not yet addressed the ecosystem, regional or cumulative effects scales that are thought to be the starting point for the use of sustainability indicators in development planning (Rees 1988, Noorbakhsh and Ranjan 1999).

In summary, a planning model of EIA was only a weak influence during the period when Viet Nam first designed and implemented its EIA process, and such a model has not been promoted strongly by subsequent development aid capacity-building programmes. In the academic literature critical of the continued transfer of a technical model to developing countries (see for example: Tester 1989, Appiah-Opoku 1994a, Jiggins 1995, Sankoh 1996) should be an acknowledgement that the technical model remains appealing for developing country governments, and development aid implementing agencies. This is due mainly to the technical model's comparative procedural simplicity, and ability to be grafted onto developing country planning processes without fundamental change being required. However, a key issue for the academic literature to confront is the question of how a technical model of EIA, once built, can be consciously transformed over time toward something closer to a planning model. Developing country EIA literature has not generally acknowledged the changing nature of EIA systems over time, nor the processes and influences which can effect change. Once EIA has been initiated in a country, patterned on a

variation of a technical model, capacity-building programmes may then attempt to 'push the boundaries' in developing country planning systems and over time, transform these systems into something which contributes more directly to the achievement of sustainability goals. By selectively introducing aspects of a planning model, and widening capacity building to address the development planning process within which EIA is housed, development aid agencies are more likely to see a planning model implemented over the long term and thus, contribute more centrally to the achievement of sustainable development goals.

Academic research into the influence, limitations and design differences of environmental capacity-building programmes in developing countries is important to improved understanding about environmental and development planning in developing countries. Although the academic literature is largely bereft of such studies, the few that have been carried out to date have not acknowledged the significant conceptual differences (over the form of environmental planning promoted) among aid programmes, and the resulting confusion such 'mixed messages' may cause for developing country counterparts as they struggle to implement a workable and effective system of environmental planning. Single-country studies on EIA capacity-building are important, allowing the researcher to work at a level of detail which facilitates insight into structural barriers, historical events, and political processes unique to a particular country. As well, my research has revealed that EIA and environmental planning systems are not static, and longitudinal studies within particular countries are needed to document the process of change. There is a need to replicate and extend the research carried out for this dissertation in other developing countries worldwide.

The research has sparked a series of additional research questions which can only be answered through research comparing capacity-building programmes in differing developing country contexts, or differing regionally-defined developing country groupings. How does EIA capacity-building in Viet Nam compare to that of other Southeast Asian countries? How does EIA capacity-building in African, South American or Pacific Island developing countries compare to that of Asian countries? In what way can a planning model of EIA be best introduced into such contexts? Research based on such questions is needed, and through such studies, generalised statements can be further derived on the most effective means by which development aid programmes in developing countries can stimulate environmental planning processes, and the achievement of sustainable development goals.

6.1.3 Implications for Development Aid Agencies

The research has its most direct implications for development aid agencies involved in environmental capacity building in developing countries. For these agencies, the most important findings are:

- The sustainable development rhetoric adopted by so many aid agencies was not fully reflected in the actions of EIA capacity-building programmes in Viet Nam;
- Social aspects of EIA were addressed only marginally;
- The model of EIA promoted by aid agencies did not link with sustainability indicators or contribute greatly to achieving sustainable development goals, and;
- Structural barriers are likely to prevent the adoption of a full planning model of EIA unless capacity-building programmes also target the wider development planning process in which EIA is housed.

The research also has implications for development aid programming simply through its basis in empirical study: to date, most discussions of EIA capacity-building have been based on theoretical and conceptual conjecture rather than empirical studies.

With their broad international perspective and the benefit of exposure to almost 30 years of international EIA practice, development aid agencies have the potential to play a lead role in helping developing countries to 'learn from past mistakes', and assist in moving EIA beyond narrow technical and project-specific applications, to one which reaches all levels of development planning, and which contributes centrally to the achievement of sustainable development goals. In short, aid agencies are potentially powerful agents of change in developing countries, and are well placed to help implement a planning model of EIA.

However, if development aid agency rhetoric about the need to stimulate sustainable development in developing countries is an accurate reflection of aid goals, greater attention to capacity-building under a planning model of EIA is required. Aid agencies have missed the opportunity to promote further some of the aspects of a planning model which have the strongest potential for effecting change supportive of sustainable development. In particular, aid agencies have not promoted strategic environmental assessment (e.g. regional environmental assessment and cumulative effects assessment) to a high degree, nor have they matched rhetoric about social and participative aspects of the EIA process with actions. Aid agencies are well placed, in their role as sources of funding, to introduce new concepts supportive of sustainable development and to redirect the Vietnamese development planning

process toward a more sustainable path. Aid "conditionality", in which reforms are introduced in return for significant aid support, is a long established tradition by which reforms are introduced into developing country bureaucracies. As long as such reforms are arrived at through consultation with Vietnamese officials, rather than imposed, additional capacity-building programmes under a planning model could contribute more to the sustainability of Viet Nam's development planning process. This has particular relevance to the many physical development projects that aid agencies fund in Viet Nam (e.g. fisheries, highways, ports, bridges). One particularly effective means by which to demonstrate the effectiveness of a planning model would be to apply such an approach regionally in Viet Nam: aid agencies would work together with Vietnamese counterparts in a long-term process, beginning at strategic levels and working downwards to the expression of regional plans and projects. At the implementation stages of such projects, aid agencies could employ concepts such as adaptive assessment to demonstrate the process and benefits of continuous monitoring[69].

A series of policy implications for development aid agencies involved in EIA capacity-building have been drawn from the research. Taken together, these policy implications form guidelines useful in implementing a planning model of EIA in Viet Nam and other developing countries. These guidelines are listed in Table 6.1.

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[69] A smaller version of such a regional approach was adopted by the UNDP Phase II project but began at project rather than strategic levels.

Table 6.1: Towards a Planning Model of EIA: Guidelines for EIA Capacity-Building Programmes in Developing Countries

Guideline #1: Ensure aid coordination

Coordinate development aid within a particular country and work toward a planning model of EIA as a long-term 'vision'.

a) Use a mixed-scanning approach to coordinate aid efforts, monitor progress and harmonise capacity-building.
b) Ensure aid programme overlap and redundancy is kept to a minimum.
c) Use mixed-scanning to transform the EIA system over time toward a planning model, and to ensure progress on sustainable development goals.

Guideline #2: Enhance social aspects of EIA

Introduce capacity-building for 'social aspects of EIA' and public involvement at the earliest stages.

a) Involve social institutions in EIA process ('social' Ministries, social science departments of Universities, or socially-oriented NGOs).
b) Explore with environmental ministries institutional arrangements for social impact assessment (e.g. setting up a 'social impact' unit or 'public involvement' office within environmental ministries).
c) Discuss with counterparts the level of public involvement likely to be accepted in the country and begin capacity building from this level (i.e. do not 'scare off' counterparts with immediate discussions of the need for autonomy and self-determination in EIA).

Guideline #3: Use capacity-building processes with a history of success

Use a range of capacity-building processes with a history of success in EIA.

a) Use a 'learn-by-doing' approach using real world development proposals.
b) Use opportunism and gradualism to transform EIA systems.
c) Initiate and maintain strategic alliances with key developing country individuals (country 'experts' or influential leaders).
d) Use education and training to expand counterpart awareness of possible EIA models.
e) Minimise use of the 'expert'/'counterpart' model of capacity-building.

Guideline #4: Channel funding agency influence

Adjust development aid mission statements and funding guidelines/programme parameters to strengthen support for EIA capacity building under a planning model.

a) Balance consultative approaches to aid programme design with programming based on normative planning/sustainable development principles.
b) Use aid funding guidelines and programme parameters to steer implementing agencies toward a planning model, and monitor the degree of compliance.

Guideline #5: Strengthen non-project EIA

Introduce higher-order assessment earlier in capacity-building programmes (before project-level assessment wherever possible).

a) Link capacity-building for higher-order assessment with programmes operating at the project-level.
b) Carry out capacity-building with agencies responsible for setting development policies, regional development agendas, and sectoral development programmes.

Guideline #6: Establish links between EIA and sustainable development/sustainability
Conduct capacity building to establish clear links between the EIA process and country sustainable development goals.
a) Promote sustainability indicators as a means by which to review and judge development proposals.

Guideline #7: Promote multiple forms of knowledge in EIA
Demonstrate to developing country counterparts the value of incorporating alternatives to scientifically-based knowledge in the EIA process.
a) Involve counterparts in carrying out practical case studies and/or field studies, and prepare resource materials in the local language.
b) Demonstrate the differing outcomes of EIA studies carried out using 'scientific' vs. 'multiple forms of knowledge'.

Guideline #8: Incorporate uncertainty
Incorporate the concept of uncertainty into EIA capacity-building programmes.
a) Prepare resource materials on predictive difficulties in ecological and social systems.
b) Carry out capacity-building on 'planning in the face of uncertainty'.
c) Promote longer-term, multi-phase or continuous EIA.
d) Promote adaptive planning, phased implementation of developments, and the precautionary principle.

Guideline #9: Transform unsustainable aspects of the planning theory base
Conduct capacity-building for advocacy and transactive planning (for potentially affected communities), and mixed scanning.
a) Carry out practical examples of advocacy and transactive planning with counterparts.
b) Introduce mixed-scanning as a strategic planning tool.

Guideline #10: Widen the scope of EIA capacity-building
House EIA capacity-building programmes within a framework of aid agency programming targeting the wider development planning process, and carry out capacity-building with a broad range of actors, regions and levels in the EIA process.
a) Do not limit EIA capacity-building to institutions centrally involved in the EIA process.
b) Conduct analyses of 'structural barriers' to the implementation of a planning model and carry out capacity building widely in the development planning process to reduce the impact of such barriers.
c) Carry out EIA capacity-building with line ministries as well as those directly responsible for the EIA process.
d) Address the use and influence of EIA in the political process of development planning decision-making.

e) Once EIA capacity has been established within government and academic institutions, extend programmes to private sector and grassroots actors (e.g. affected communities).
f) Aim for geographical balance in capacity-building within a country.
g) Establish environmental business mentorship programmes to strengthen private sector capacities (initiated by aid but taken over on a voluntary basis by personnel from successful environmental consulting firms).

Guideline #11: Extend the time-frame for EIA capacity building
Increase estimates of the time needed for EIA capacity-building to stimulate adoption of a planning model of EIA.
a) Avoid short-term capacity-building programmes. Long term programmes (i.e. greater than one year) are more useful and less disruptive to counterparts.
b) View EIA systems as dynamic, and use capacity-building interventions to promote change over time toward a desired endpoint.

Guideline #12: Increase EIA training course effectiveness
Use EIA training courses as a strategic tool in effecting a planning model.
a) Adapt EIA training course content to the stage of EIA implementation and degree of knowledge found within the country (e.g. short, generic courses are most useful at early stages of EIA implementation while longer, more detailed and targeted, courses may be appropriate in later stages).
b) Screen training course trainees to ensure appropriate background knowledge and to screen out those who have already attended similar courses.

The research has the potential to contribute to practical efforts by development aid agencies and developing country governments to work toward sustainable development goals, mainly through the implementation of capacity-building guidelines developed in this chapter. Although these guidelines are most applicable to EIA capacity-building programmes in Viet Nam and other developing countries with similar contexts, it is expected that the points raised would also stimulate discussions useful in most other developing countries. Thus, the research has generalisable implications for a range of development aid agencies, developing countries, and in some cases, developed countries. The research has also indicated where future research efforts are needed, and has suggested some of the academic questions guiding this research.

6.2 Conclusion

Development aid agencies must reposition environmental planning capacity-building programmes if they are to be effective in transforming the development planning contexts of developing countries: capacity-building should not be limited to the strengthening of capacities within an unsustainable development planning process. Henry (1990) described the typical development planning context of developing countries as that of wide power imbalances and the routine exclusion of weaker communities from the development planning process. Other authors have referred to the political context of development planning in developing countries, in which the developmental merits of a proposal are often deemed less important than are its implications for national prestige, the consolidation of political power, or the personal gains of powerful decision-makers (Wandesforde-Smith *et. al.* 1985, Adams 1990, Wood 1993, Appiah-Opoku 1994a). To this may be added the generally low state of knowledge and concern for ecological sustainability within the development planning structures of developing countries. Working within such a context will lead aid agencies to help entrench an undesirable *status quo* in development planning. For EIA capacity-building to work within, rather than attempt to transform, such a context would significantly reduce EIA's potential to foster more equitable and sustainable forms of development in developing countries. Thus, although the development planning context is an important factor to be reflected in environmental planning processes, EIA capacity-building programmes should consciously act on and transform that context wherever possible.

Future EIA capacity-building programmes will undoubtedly be put in operation in Viet Nam and a host of other developing countries. Evidence presented in Chapter Two

suggests that the use of a planning model of EIA has greater long-term sustainability benefits than does a technical model. In designing capacity-building programmes in accordance with the guidelines developed in this dissertation, aid agencies would be assured that the money invested in capacity-building would not result in an EIA process which only has the power to tinker at the margins of inappropriate and ill-advised project-levels of development. More generally, development aid agencies would also be more certain that the EIA processes operated in developing countries would contribute more completely to the achievement of that country's sustainable development goals.

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APPENDIX ONE: Key Informant Question Themes

KEY INFORMANT QUESTION THEMES

The following question themes were used as a general "menu" from which questions could be formulated during the course of unstandardised key informant interviews. The sequence and content of each interview varied according to the informant's institutional allegiance, nationality (i.e. Vietnamese national vs. expatriate), level of seniority, familiarity with EIA capacity-building, and the type of information that came up during the interview.

Informant's level and type of involvement with EIA capacity-building programmes

- Personal experiences
- Responsibilities/job description
- Level of responsibility
- Institutional description
- EIA expertise

Vietnamese history/experience with EIA

- Earliest EIA practice, pioneering institutions/individuals
- Other countries as a model for Viet Nam
- Examples of EIA practice (case studies)
- Development of institutional framework for EIA
- Key developments (fostering EIA use)
- EIA status prior to foreign aid programmes
- Relative importance of foreign aid programmes
- Current EIA regulations
- Current EIA applications (e.g. projects vs. policies/programmes)
- Influence of EIA studies in current development planning process

Foreign EIA capacity-building programmes

- Programme origin (actors, identification of need, and planning process)
- Donor-recipient interactions in programme development
- Activities undertaken

- Use of case studies
- New ideas introduced
- Actors involved
- EIA model promoted
- EIA model justification
- EIA model appropriateness
- Effectiveness/impact on host institution
- Problems/missing elements
- Overlap with other programmes
- Recommendations for future EIA capacity-building programmes
- Change over time (i.e. emerging aid trends or changing approaches)
- Additional programmes still in the planning stages

EIA and the Viet Nam development planning context

- Development planning structures and policy priorities
- Political structures/traditions influencing EIA application
- Central vs. regional/local government powers
- Influence of "traditional" decision-making structures over "official" regulations
- Importance of technical/economic studies vs. environmental/social impact studies
- Relative power of environmental planning regulations/institutions
- Position of social sciences vs. hard sciences
- Attitudes toward knowledge useful in environmental planning
- Attitudes toward social impact assessment
- Attitudes toward public participation (existing and potential)
- Barriers/constraints to EIA implementation
- Future EIA capacity-building needs

APPENDIX TWO: List of Key Informants

KEY INFORMANTS

Informant #1. Dec. 1, 1994. Senior Environmental Specialist, multilateral aid agency.

Informant #2. Dec. 2, 1994. Senior Economist, multilateral aid agency.

Informant #3. Dec. 5, 1994. Economist, UN agency.

Informant #4. Dec. 5, 1994. Research Assistant, UN agency.

Informant #5. Dec. 5, 1994. Fisheries Expert, multilateral aid agency.

Informant #6. Dec. 9, 1994. First Secretary, bilateral aid agency.

Informant #7. Dec. 9, 1994. Programme Officer, UN agency

Informant #8. Dec. 12, 1994. Counsellor-Development, bilateral aid agency.

Informant #9. Dec. 13, 1994. Assistant Resident Representative, UN agency.

Informant #10. Dec. 13, 1994. Resident, multilateral aid agency.

Informant #11. Dec. 15, 1994. Environmental Management Advisor, international NGO.

Informant #12. Dec. 20, 1994. Programme Officer, UN agency.

Informant #13. Dec. 20, 1994. Programme Officer, UN agency.

Informant #14. Dec. 20, 1994. Counsellor, bilateral aid agency.

Informant #15. Dec. 27, 1994. Country Representative, international NGO.

Informant #16. Dec. 27, 1994. Country Representative, international NGO.

Informant #17. Dec. 29, 1994. Counsellor, bilateral aid agency.

Informant #18. Dec. 30, 1994. First Secretary and Programme Officer for Forestry and Environment, bilateral aid agency.

Informant #19. Dec. 30, 1994. Regional Programme Officer, bilateral aid agency.

Informant #20. Jan. 2, 1995. Deputy Director, university environmental research institute.

Informant #21. Jan. 3, 1995. Programme Officer, Viet Nam Ministry of Science, Technology and Environment.

Informant #22. Jan. 3, 1995. Unit Director- Viet Nam Ministry of Science, Technology and Environment

Informant #23. Jan. 4, 1995. Counsellor, bilateral aid agency.

Informant #24. Jan. 5, 1995. Management Advisor, international NGO.

Informant #25. Jan. 10, 1995. Deputy Director, university environmental research institute.

Informant #26. Jan. 11, 1995. Programme Officer, institute of technology environmental programme

Informant #27. Jan. 11, 1995. Director, social sciences research institute.

Informant #28. Jan. 11, 1995. Programme Assistant, social sciences research institute.

Informant #29. Jan. 11, 1995. Country Representative, international NGO.

Informant #30. Jan. 11, 1995. Chairman, national environmental research programme.

Informant #31. Jan. 12, 1995. Researcher and Lecturer, university environmental research institute.

Informant #32. Jan. 16, 1995. Counsellor-Development, bilateral aid agency.

Informant #33. Oct. 20, 1997. Researcher and Lecturer, university environmental research institute.

Informant #34. Oct. 20, 1997. Director, university environmental research institute.

Informant #35. Oct. 20, 1997. Director, university environmental research institute.

Informant #36. Oct. 20, 1997. Chief, UN agency.

Informant #33. Oct. 20, 1997. Consultant, EIA capacity-building project.

Informant #38. Oct. 28, 1997. Staff, EIA capacity-building project.

Informant #39 Oct. 28, 1997. Staff, EIA capacity-building project.

Informant #40. Jan. 12, 1998. First Secretary, bilateral aid agency.

Informant #41. Jan. 13 & 16, 1998. Consultant, EIA capacity-building project.

Informant #42. Jan. 13 & 16, 1998. Consultant, EIA capacity-building project.

Informant #43. Jan. 13 & 16, 1998. Consultant, EIA capacity-building project.

Informant #44. Jan 14. 1998. Deputy Director, social research institute.

Informant #45. Jan. 23, 1998. Senior Ministry Official - Viet Nam Ministry of Science, Technology and Environment.

Informant #46. Jan. 23, 1998. Professor, European University and EIA capacity-building project staff.

Informant #47. Feb. 10, 1998. Chief Advisor, EIA capacity-building project.

Informant #48. Feb. 12, 1998. Researcher, university environmental research institute.

Informant #49. Feb.17, 1998. Chief Advisor, EIA capacity-building project.

Informant #50. Feb. 17. 1998. Research Associate, EIA capacity-building project.

Informant #51. Feb. 18 & 28, 1998. Advisor, EIA capacity-building project.

Informant #52. Feb. 24, 1998. Director, university environmental research centre.

Informant #53. Feb. 24, 1998. Unit Officer - Viet Nam Ministry of Science, Technology and Environment.

Informant #54. Mar. 2, 1998. Programme Officer, international NGO.

Informant #55. Jul. 4, 1998. Director, university environmental research centre.

Informant #56. Jul.17, 1998. Director, University environmental research centre.

Informant #57. Jul.23, 1998. Team Leader, environmental capacity-building project.

Informant #58. Jul. 17, 1998. Environmental Officer, multilateral aid agency.

Informant #59 Jul. 21, 1998. Chairman, national environmental research programme.

Informant #60. Jul. 28, 1998. Social Impact Specialist, international NGO.

Informant #61. Jul. 31, 1998. Senior Official, Ministry of Planning and Investment.

Informant #62. Aug. 4, 1998. Official, Ministry of Planning and Investment.

Informant #63. Feb. 26, 1998. Senior Official, Ministry of Transportation.

Informant #64. Jan. 23, 1998. Team Leader, environmental capacity-building project.

APPENDIX THREE:Institutional Arrangements for EIA in Viet Nam

INSTITUTIONAL ARRANGEMENTS FOR EIA IN VIET

There are seven main actors in the Vietnamese EIA process governing *newly proposed* projects*:

1) *Project Proponent*: foreign or domestic private investors, or government agencies
2) *EIA Consultants*: primarily faculty or staff of academic institutions
3) *National Environment Agency* (NEA-MOSTE): for large projects
4) *Provincial DOSTE Offices*: for small to medium-sized projects
5) *Vietnamese government ministries/agencies*: all those concerned with potential impacts of a particular proposed project. In some instances (e.g. Ministry of Planning and Investment, Ministry of Transportation and Communication) 'in-house' environmental management units incorporate environmental concerns into project design before projects are subjected to formal EIA scrutiny by MOSTE or DOSTEs.
6) *EIA Appraisal Council*: an ever-changing group of individuals convened on a project-by-project basis by NEA (large projects) or DOSTE (small/medium projects)
7) *Vietnamese Public*: those able to read technical Vietnamese, and submit written comments.

The following are general steps followed in the Vietnamese EIA process. In reality, many government-led projects avoid the EIA process altogether, opportunities for public comment are highly formalised and require a level of education beyond all but the most highly educated in Vietnamese socity, and steps in this general process are routinely circumvented through 'informal' institutional and personal arrangements.

Step 1-Determining which projects require EIA: Decree 175/CP includes a list of projects clearly not requiring EIA (e.g. banks, food service establishments) and those which may require EIA. For those projects which may require EIA, the proponent submits a brief IEE identifying major expected impacts. NEA then determines whether a full EIA study is required, and if so, whether NEA/MOSTE or provincial DOSTE offices will review completed EIA studies (depending mainly on the project's size).

Step 2-Preparing the EIA report: The project proponent and hired environmental consultants prepare a suggested Terms of Reference for the EIA, submits this to NEA or DOSTE (and other concerned groups, individuals and government agencies), and incorporates suggestions into a revised Terms of reference. EIA studies are carried out, and reviewed against the Terms of Reference as a measure of sufficiency.

Step 3-Fine-tuning the EIA report/Public comment: The project proponent submits the draft EIA for review by the appropriate government agency (NEA or the local DOSTE), which, in addition to commenting, directs the proponent on how to make the report available for public comment. The role of public comment is to determine whether any major considerations have been left out of the draft EIA report, and to provide an opportunity for revisions based on public concerns. Based on these review comments, NEA or DOSTE determine whether alterations to the draft EIA report are required.

Step 4-Appraising the EIA Report: NEA or DOSTE, with assistance from the EIA Appraisal Council, reviews the revised (final) EIA report and determines the report's acceptability. There are three possible categories of appraisal: 1) Reject proposal and do not issue an Environmental Appraisal certificate (EAC), 2) Issue an EAC subject to certain mitigatory or monitoring conditions, or; 3) grant an unconditional EAC. MOSTE or the provincial DOSTE issues EAC's, while provincial DOSTEs, in conjunction with the Department of Construction, monitor environmental aspects during site preparation and construction phases.

*(Vietnamese EIA regulations also require *existing* industries and development projects to carry out EIA: since this is more accurately termed "environmental auditing", administrative and institutional requirements for existing projects are not described here).